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15

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VOLUME 27

1962

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Preface

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A & U	Allen & Unwin
B & S	Bailey & Swinfen
C & H	Chapman & Hall
CUP	Cambridge University Press
EUP	English Universities Press
HMSO	Her Majesty's Stationery Office
McG-H	McGraw-Hill
O & B	Oliver & Boyd
OUP	Oxford University Press
R & KP	Routledge & Kegan Paul
T & H	Thames & Hudson
ULP	University of London Press

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CHERRY, C. *ed.* 1
Information theory: papers read at a symposium on 'information theory' held at the Royal Institution, London, August 29th to September 2nd, 1960. Butterworths, 1961. xi,476p, plates, tables, diagrs, bibliogs. 95*s*.

C Thirty-six original papers describing developments in information theory studies in such fields as telecommunications, coding theory, learning mechanisms, language analysis, and classification.

PASK, G. 2
An approach to cybernetics, with a preface by W. S. McCulloch. Hutchinson, 1961. 128p, illus, plates, diagrs, bibliog. 12*s* 6*d*. *Hutchinson science library.*

A Survey of current thought, touching on common bases of control and communication in animal, machine, and social organism.

5 MATHEMATICAL AND NATURAL SCIENCES

DRESSLER, A. 3
Introduction to Russian science reading. EUP, 1961. x,161p, tables. 20*s*.

B Handy short grammar with graded general texts and 650-word basic vocabulary, some easy and advanced scientific texts, and hints on use of dictionaries.

WEXLER, A. 4
Experimental science for the blind: an instruction manual. Oxford, NY [etc], Pergamon P with the assistance of the Royal National Institute for the Blind, 1961. xi,97p, illus, diagrs, bibliogs. 30*s*; $5.

A Describes some 200 experiments, using ordinary apparatus adapted to use of blind students.

51 Mathematics

DRESHER, M. 5
Games of strategy: theory and applications. Prentice-Hall, [1961]. xii,186p, tables, diagrs, bibliog. 2 *gns*. *Prentice-Hall applied mathematics series.*

B Thorough account of elementary mathematical theory of games of strategy and decision making, with numerous applications, chiefly of military type. Author is a research mathematician of the Rand Corporation.

NICOLSON, M. M. 6
Fundamentals and techniques of mathematics for scientists, ed. by D. R. Hartree and D. G. Padfield. Longmans, 1961. xx,526p, tables, diagrs. 45*s*.

B Course book covering the calculus, transforms, infinite series, complex variables, vector-matrix and tensor analysis, units and dimensions. For intending physicists, engineers, and applied mathematicians.

PÉTER, R. 7
Playing with infinity: mathematics for everyman, tr. by Z. P. Dienes. Bell, 1961. xiii,268p, illus, diagrs. 25*s*.

A No book has better captured the spirit of mathematics without the use of formulae or technical terminology.

STRAIN, M. 8
Mathematical methods for technologists, arranged by M. Strain. EUP, 1961. viii,[6],585p, tables, diagrs. 50*s*. *General engineering series.*
B Covers Dip. Tech. course in mathematics; also suitable for engineering degree courses and postgraduate and industrial scientific workers.

VITUSHKIN, A. G. 9
Theory of the transmission and processing of information, tr. from the Russian by R. Feinstein, tr. ed. A. D. Booth. Oxford, NY [etc], Pergamon P, 1961. xvi,206p, bibliog. 100*s*; $15.
C Research monograph dealing with advanced abstract concepts, tabulation problems, and mathematical estimates of complexity in some branches of information theory.

53 Physics and Mechanics

ARNOLD, R. N. *and* MAUNDER, L. 10
Gyrodynamics and its engineering applications. NY, London, Academic P, 1961. x,484p, tables, diagrs. $14; 100*s*.
C Comprehensive analytical treatment of gyroscopic problems and design of gyroscopic devices. For engineering designers and advanced students.

BAKER, H. D. *and others* 11
Temperature measurement in engineering, by H. D. Baker, E. A. Ryder, N. H. Baker; vol. 2. NY, London, Wiley, [1961]. viii,510p, tables, diagrs, bibliogs. $13; 104*s*.
B Review of basic methods of resistance thermometry and radiation pyrometry, followed by detailed treatment of specific problems of measurement and techniques most suitable for solution.

PASCOE, K. J. 12
Introduction to the properties of engineering materials. London, Glasgow, Blackie, [1961]. xiii,295p, illus, tables, diagrs. 35*s*.
B General textbook intended primarily for university engineering students but suitable also for students for the Associateship of the Institution of Metallurgists.

REYNST, F. H. 13
Pulsating combustion: the collected works of F. H. Reynst, ed. by M. W. Thring. Oxford, NY [etc], Pergamon P, 1961. xii,310p, plates, tables, diagrs, bibliogs. 100*s*; $15.
C Describes principles and possible applications in boiler furnaces and various forms of aircraft propulsion.

SURUGUE, J. *ed.* 14
Experimental methods in combustion research: a manual. Oxford, NY [etc], Pergamon P for Advisory Group for Aeronautical Research and Development, North Atlantic Treaty Organization, 1961. xxii,[291]p, illus, tables, diagrs, bibliogs. 5 *gns*; $15.
C Will give new workers an introduction to variety of research techniques now in use; to practice them they will need to make use of the extensive references. Loose-leaf.

WARRING, R. H. 15
Hydraulic fluids and engineering applications. Sutton (Sy), Trade and Technical P, 1961. ix,189p, tables, diagrs. 35*s*.
B Manual of hydraulic-fluid properties, pipeflow, and actuator and maintenance data. Useful design-engineer's reference book containing charts, tables, and theory.

537 *Electricity*

BALDWIN, C. T. 16
Fundamentals of electrical measurements. Harrap, 1961. 336p, tables, diagrs, bibliog. 25*s*.
B Covers measuring instruments, meters, and circuits, principally at power and audio frequencies but with chapters on measurement at higher frequencies and voltages.

KARO, D. 17
Electrical measurements and the calculation of the errors involved; part 1. 2nd ed. Macdonald, 1961. 213p, tables, diagrs. 25*s*.
B Textbook covering B.SC. syllabus with special reference to error determination; this part deals with direct-current measurements. Reference value seriously affected by lack of index.

TREBENA, D. H. 18
Static fields in electricity and magnetism. Butterworths, 1961. xi,255p, tables, diagrs, bibliog. 35*s*.
B Pass degree coverage of electrostatics, magnetism, and steady magnetic fields, using unrationalized units applicable to both CGS and unrationalized MKS systems.

539.1 *Nuclear Physics*

CAIANIELLO, E. R. *ed.* 19
Lectures on field theory and the many-body problem. NY, London, Academic P, 1961. xiii,327p, diagrs, bibliogs. $9.50; 76*s*.
C Survey of recent developments in analytical theories of structure, spin, statistics, and interactions of fundamental particles, with applications to superconductivity and the nucleus.

DE WITT, C. *and* OMNES, R. 20
Relations de dispersion et particules élémentaires [Dispersion relations and elementary particles]: Université de Grenoble, école d'été de physique théorique. Paris, Hermann; NY, [London], Wiley, [1961]. 671p, tables, diagrs, bibliogs. $20; 160*s*.
C Presents theoretical basis and applications in greater detail than hitherto available in single text. No index. Two papers in French.

TOBOCMAN, W. 21
Theory of direct nuclear reactions. OUP, 1961. [5],105p, diagrs, bibliog. 15*s*. *Oxford library of the physical sciences.*
C Describes theory of direct reactions at intermediate energies.

54 Chemistry

ALLEN, A. O. 22
Radiation chemistry of water and aqueous solutions. Princeton (NJ), London [etc], Van Nostrand, [1961]. xi,204p, tables, diagrs, refs. $6; 45*s*.
B Gives experimental results and present state of theory for water alone and all types of aqueous solutions.

COULSON, C. A. 23
Valence. 2nd ed. OUP, 1961. ix,404p, tables, diagrs, refs. 30*s*.
B Distinguished text covering wave mechanical basis of valency theory, and molecular orbital and valency bond treatments. Brought up to date, with new chapter on ligand field theory.

INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY 24
Rules for IUPAC notation for organic compounds, issued by the Commission on Codification, Ciphering, and Punched Card Techniques. Longmans, 1961. ix,107p, tables, bibliog. 25*s*.

C Final report of the Commission, giving set of rules for codification based on extended and revised Dyson system.

TANFORD, C. 25
Physical chemistry of macromolecules. NY, London, Wiley, [1961]. xiv,710p, illus, tables, diagrs, bibliogs. $18; 144*s*.

C Comprehensive account based on graduate course and designed as reference for research workers. Emphasis on theory and on proteins and their aqueous solutions.

57 Anthropological and Biological Sciences

GOODWIN, T. W. *and* LINDBERG, O. *eds* 26
Biological structure and function: proceedings of the first IUB/IUBS international symposium held in Stockholm, September 12–17, 1960; vol. 1. London, NY, Academic P, 1961. xii,363p, illus, tables, diagrs, bibliogs. 70*s*; $10.50.

B–C Authoritative papers present and summarize important research on macromolecular structure and function, microsomes and protein synthesis, and polysaccharides.

REID, G. K. 27
Ecology of inland waters and estuaries. NY, Reinhold; London, C & H, [©1961]. xvi,375p, illus, tables, diagrs, bibliog. $9; 60*s*. *Reinhold books in the biological sciences.*

B Lucid introduction to physical, chemical, and biological factors of freshwater ecology, incorporating much recent limnological research. Well illustrated.

58 Botany

ALLAN, H. H. 28
Flora of New Zealand; vol. 1, indigenous Tracheophyta: Psilopsida, Lycopsida, Filicopsida, Gymnospermae, Dicotyledons. Wellington, Government Printer, 1961. liv,1085p, illus, bibliogs. 105*s*.

D New flora indebted to Cheeseman's *Manual of the New Zealand flora* but not based upon it. Only indigenous plants included. Completed after author's death by Lucy B. Moore.

BLAKE, S. F. 29
Geographical guide to floras of the world: an annotated list with special reference to useful plants and common plant names. Part 2, Western Europe. Washington (DC) US Government Printing Office, 1961. i,742p, $2.75. *US Department of Agriculture, misc. pub. no. 797.*

D Contains annotated list by country; introduction and bibliography, list of abbreviations of serials cited, author index, and detailed geographical index (countries, cantons, etc.).

30
DARWIN centenary: the report of the conference held by the Botanical Society of the British Isles in 1959 to mark the centenary of the publication of the *Origin of species*, ed. by P. J. Wanstall. Botanical Society of the British Isles, 1961. 140p, illus, plates, tables, diagrs, refs. *BSBI conference reports, no. 6.*

B Six papers by specialists reflect modern thought on mechanism of plant evolution.

JAEGER, P. 31
Wonderful life of flowers; tr. [from the French] by J. P. M. Brenan. Harrap, 1961. 195p, illus, tables, bibliogs. 3 *gns. Living nature series.*

B Valuable and up-to-date summary of floral biology. Well illustrated.

TOMLINSON, P. B. 32
Anatomy of the monocotyledons, ed. by C. R. Metcalfe; vol. 2, Palmae. Oxford, Clarendon P, 1961. xv,453p, illus, plates, tables, bibliog. 3 *gns*.
D Only detailed description of vegetative anatomy of all types of palm; accurate and easily. used tool for botanist or tropical agriculture or forestry research worker.

59 Zoology

COLLIN, J. E. 33
British flies; vol. 6, Empididae. Cambridge, CUP, 1961. 3v. 30*s* each.
C Part 1, Tachydrominae. viii,219p, plate, diagrs. Part 2, Hybotinae, Empidinae (except Hilara). [3],220–551p, illus. Part 3, Empidinae (Hilara only), Hemerodrominae, index to parts 1–3. [3],553–782p, illus. Also available in one volume at 100*s*.

ROTHSCHILD, N. M. V., *3rd Baron Rothschild* 34
Classification of living animals. Longmans, 1961. vii,106p, tables, bibliog. 25*s*.
D

SAVAGE, R. M. 35
Ecology and life history of the common frog (Rana temporaria temporaria). Pitman, 1961. vii,221p, illus, tables, diagrs, bibliogs. 25*s*.
B Full account of the author's observations, with statistical analysis and list of references.

6 APPLIED SCIENCES

62 Engineering and Technology

STANFORD, E. G. *and* FEARON, J. H. *eds* 36
Progress in non-destructive testing; vol. 3. Heywood, 1961. vii,227p, plates, tables, diagrs, bibliogs. 55*s*.
C Editors sort out science from witchcraft for readers who already have experience of non-destructive testing. Admirable first source of information.

621 *Mechanical and Electrical Engineering*

621.039 *NUCLEAR ENGINEERING*

BROWNELL, L. E. 37
Radiation uses in industry and science. Washington (DC), US Government Printing Office, 1961. xii,420p, illus, refs. $2.50.
B Intended as source of information for industrial management on some existing and potential applications of radioisotopes and nuclear radiation.

FLAGG, J. F. *ed.* 38
Chemical processing of reactor fuels. NY, London, Academic P, 1961. xi,530p, illus, tables, diagrs, bibliogs. $17.50; 125*s*. *Nuclear science and technology: a series of monographs and textbooks, vol. 1.*
B–C Deals with wet chemical methods and discusses allied technologies of raw material processing, criticality problems, and waste treatment. For workers in nuclear engineering and students.

JAY, K. 39
Nuclear power today and tomorrow. Methuen, 1961. [6],270p, plates, tables, diagrs, bibliog. 25*s*.
A Authoritative study of technology and economics of nuclear fission reactors and their place in national power programmes of major countries.

KOHL, J. *and others* 40
Radioisotope applications engineering, by J. Kohl, R. D. Zentner, H. R. Lukens. Princeton (NJ), London [etc], Van Nostrand, [1961]. xiv,562p, illus, tables, diagrs, bibliogs. $16.50; 124*s*. *Van Nostrand nuclear science series.*
B Informative account of physics of radioisotopes and selection, preparation, supply, measurement, and applications of tracers, including shielding, legal, and safety aspects. Data and documentation slight after 1957.

621.3 *Electrical Engineering*

MCCLEERY, D. K. 41
Radio today. London, NY [etc], OUP, 1961. [9],222p, illus, tables, diagrs. 21*s*. [*Pageant of progress.*]
A–B Excellent review of whole subject (excluding radar) from Clerk Maxwell to present time.

42
TRANSACTIONS of the symposium on electrode processes: papers presented at a symposium of the Theoretical Electrochemistry Division of the Electrochemical Society in Philadelphia on May 4 to 6, 1959, ed. by E. Yeager. NY, London, Wiley, [1961]. xiv,374p, illus, tables, diagrs, bibliogs. $20; 160*s*.
C Substantial papers with well-edited discussion. Typewriter script.

WILKINSON, K. 43
Armatures and field coils. Spon, 1961. xiv,224p, illus, plates, bibliog. 35*s*.
B Detailed review of construction, windings, and testing of armatures and field assemblies for electric motors up to about 2 h.p. For maintenance engineers and students.

ZIMNICKI, H. *and* ZIELENIEWSKI, B. *eds.* 44
English-Polish dictionary of electrical engineering. Warsaw, Panstwowe Wydawnictwa Techniczne; London, Collet's, 1961. [9],626p, 32*s* 6*d*.
D Comprehensive cover to most up-to-date technical terms used in both heavy electrical and electronics fields.

629.1 *Transport Engineering*

629.19 *ASTRONAUTICS*

ORDWAY, F. I. *ed.* 45
Advances in space science and technology; vol. 3. NY, London, Academic P, 1961. xiii,482p, illus, tables, diagrs, bibliogs. $14; 100*s*.
C Summarizes latest developments in nuclear and solar propulsion systems, describes role of geology in lunar exploration, and gives further data on Venus and Mars.

46
SPACE power systems: a selection of technical papers based mainly on a symposium of the American Rocket Society held at Santa Monica, California, September 27–30, 1960, ed. by N. W. Snyder. NY, London, Academic P, 1961. xvii,632p, illus, tables, diagrs, bibliogs. $6; 48*s*. *Progress in astronautics and rocketry, vol. 4.*
C Describes solar cell systems, nuclear systems based on SNAP II concepts including methods of energy conversion, chemical systems, and the power requirements of the NASA programme.

63 Agriculture. Livestock. Fisheries

FISHWICK, V. C. 47
Pigs: their breeding, feeding, and management. 8th ed. rev. by N. Hicks. Crosby Lockwood, 1961. 251p, plates, tables, diagrs. 20*s*. *Agricultural and horticultural series.*
A–B Introduction to practical pig-keeping, dealing with production, marketing, and basic principles of breeding and feeding pigs of all types. First published 1939.

HAYES, G. 48
Farm organization and management. 2nd ed. Grosby Lockwood, 1961. xi,355p, tables, diagrs, bibliogs. 25*s*. *Agricultural and horticultural series.*
A Practical treatment, with little discussion of underlying economic principles. Data brought up to date but treatment virtually unchanged since 1959 edition.

KING, J. O. L. 49
Veterinary dietetics: a manual of nutrition in relation to disease in animals. Baillière, Tindall & Cox, 1961. ix,234p, bibliog. 30*s*.
B Practical textbook on nutrition of cattle, sheep, horses, pigs, dogs and cats, and poultry, for veterinary surgeons, advisory officers, students, and farmers.

LINDAUER, M. 50
Communication among social bees. Cambridge (Mass), Harvard UP; London, OUP, 1961. xi,143p, illus, diagrs, bibliog. $4.75; 38*s*. *Harvard books in biology, no. 2.*
B Continuation of work reported on at Harvard by Professor von Fusch in 1949.

LUCAS, I. A. M. *and* LODGE, G. A. 51
Nutrition of the young pig: a review. Farnham Royal (Bucks), Commonwealth Agricultural Bureaux, 1961. [5],119p, tables, diagrs, bibliog. 25*s*. *Commonwealth Bureau of Animal Nutrition, Rowett Institute, technical communication no. 22.*
B Comprehensive review of literature to June 1960, drawing conclusions from evidence and pointing to gaps in our knowledge.

MARTIN, J. P. *and others, eds* 52
Sugar-cane diseases of the world, vol. 1, ed. by J. P. Martin, E. V. Abbott, and C. G. Hughes. Amsterdam, Elsevier; London, Van Nostrand, 1961. viii,542p, illus, tables, diagrs. 160*s*.
B Covers bacterial, fungus, and virus diseases, and phanerogamic parasites.

SALISBURY, G. W. *and* VANDENMARK, N. L. 53
Physiology of reproduction and artificial insemination of cattle; drawings by E. Towne. San Francisco, London, Freeman, [1961]. xii,639p, illus, tables, diagrs, bibliogs, $12.50; 90*s*. *Series of books in agricultural science.*
B Textbook for cattle breeders, artificial insemination technicians, and agricultural students.

WEST, T. F. *and* HARDY, J. E. 54
Chemical control of insects. 2nd ed. C & H, 1961. ix,206p, plates, tables, diagrs. 50*s*.
B Previous edition 1951.

66 Chemical Technology

ANDREWS, A. I. 55
Porcelain enamels; the preparation and properties of enamels. 2nd ed. Champaign (Ill), Garrard P, 1961. 633p, illus. $12.00.
B–C Includes flame spraying, electric melting, enamelling, and ac electroluminescence.

HAWKINS, E. G. E. 56
Organic peroxides: their formation and reactions. Spon, 1961. xiv,434p, diagrs, refs. 80*s*. *General and industrial chemistry series.*
D Valuable reference work for research workers and occasional users in industry.

LEE, P. W. 57
Ceramics. NY, Reinhold; London, C & H, 1961. 210p, illus. $5.95; 48*s*.
B

MOSS, A. J. E. 58
Clothes care: a manual on the care of fabrics. Heywood, 1961. xvi,560p, illus, plates, tables, diagrs. 50*s*.
B Practical aspects of dry cleaning with stress on production of a quality finish by the dry cleaner.

NORDELL, B. 59
Water treatment for industrial and other uses. 2nd ed. NY, Reinhold, 1961. 598p, illus. $12; 96*s*.
B Comprehensive coverage incorporating useful tabular appendixes.

NORMAN, W. S. 60
Absorption, distillation, and cooling towers. Longmans, 1961. x,477p, plates, tables, diagrs, bibliogs. 70*s*.
B Concentrated account, in simple terms, of a vast subject. Excellent for young recruits to industry.

OIL AND COLOUR CHEMISTS' ASSOCIATION 61
Solvents, oils, resins, and driers. C & H on behalf of the Association, 1961. 239p, illus, plates, tables, diagrs, bibliogs. 30*s*. *Paint technology manuals, part 2.*
B Second volume in series intended to cover syllabus of City and Guilds paint technology examinations.

PERDUE, G. R. 62
Technology of washing. 2nd ed. British Launderers' Research Association, 1961. 251p, plates, tables, diagrs. 2 *gns*.
B Completely revised edition of basic textbook on laundry washing of textile fabrics, (J. T. Holden and J. N. Kowler, 1948), incorporating developments in fabrics, detergents, laundry supplies, washing techniques, and equipment.

ROSE, A. H. 63
Industrial microbiology. Butterworths, 1961. viii,286p, illus, tables, diagrs, bibliogs. 60*s*.
B–C Following chapters giving basic information, industrial production by microbiological process of a variety of materials is described.

67/68 Manufactures

RABINOVICH, Z. E. *comp.* 64
English-Russian textile dictionary, ed. by K. K. Lupandin. 2nd ed. Moscow, Foreign-Language Scientific and Technical Dictionaries, Fitzmatgiz; London, Collet's, 1961. 640p, 30*s*.
D

ROBB, J. C. *and* PEAKER, F. W. *eds* 65
Progress in high polymers; vol. 1. Heywood, 1961. vii, 340p; plates, illus, tables, diagrs, bibliogs. 65*s*.
C Reviews by six specialists of recent developments in high polymer physics and chemistry.

Publishers

THE FOLLOWING ABBREVIATIONS ARE USED IN ASLIB BOOK LIST

A & U	Allen & Unwin
B & S	Bailey & Swinfen
C & H	Chapman & Hall
CUP	Cambridge University Press
EUP	English Universities Press
HMSO	Her Majesty's Stationery Office
McG-H	McGraw-Hill
O & B	Oliver & Boyd
OUP	Oxford University Press
R & KP	Routledge & Kegan Paul
T & H	Thames & Hudson
ULP	University of London Press

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23 FEB 1962

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5 MATHEMATICAL AND NATURAL SCIENCES

51 Mathematics

ALEXITS, G. 66

Convergence problems of orthogonal series, tr. [from the German] by I. Földes. NY, Oxford [etc], Pergamon P, 1961. IX,350p, bibliog. $15; 100*s*. *International series of monographs on pure and applied mathematics, vol. 20.*

C First comprehensive exposition since that of Kaczmarz and Steinhaus in 1935. English version corrects and somewhat extends original.

GREENSPAN, D. 67

Introduction to partial differential equations. NY, London [etc], McG-H, 1961. viii,195p, diagrs, bibliog. 58*s*. *International series in pure and applied mathematics.*

B Unusual combination of practical aspects with careful account of underlying theory.

KOPAL, Z. 68

Numerical analysis: with emphasis on the application of numerical techniques to problems of infinitesimal calculus in single variable. 2nd ed. C & H, 1961. xvi,594p, tables, bibliog. 70*s*.

C Undergraduate text and research handbook. New chapter on operational methods and new appendix on integration operators. For scientists and engineers.

NEHARI, Z. 69

Introduction to complex analysis. Boston (Mass), Allyn and Bacon; [London, Prentice-Hall], 1961, xi,258p, diagrs. 67*s* 6*d*.

B Complex variable methods in applied mathematics for engineers and technologists.

52 Astronomy. Surveying. Geodesy

DE VAUCOULEURS, G. 70

Astronomical photography: from the daguerreotype to the electron camera, tr. [from the French] by R. Wright. Faber, 1961. 94p, plates, bibliog. 25*s*.

B Useful reference giving dates of photographs and particulars of telescopes used. Little information on operating techniques or chemical aspects.

JONES, H. S. 71

General astronomy. 4th ed. Edward Arnold, 1961. x,470p, plates, tables, diagrs. 60*s*.

B Revised edition by the late Astronomer Royal, almost completed before his death. Chapter on astronomical instruments entirely recast.

KOZIK, S. M. 72

Table and schematic chart of selected lunar objects; tr. by P. Basu. NY, Oxford [etc], Pergamon P, 1961. v,34p, plate, tables, bibliog. $2; 12*s* 6*d*.

D Tables of rectangular co-ordinates (origin at centre of moon) and of spherical co-ordinates of selected lunar objects, for use during lunar eclipses.

MCVITTIE, G. C. 73

Fact and theory in cosmology. Eyre & Spottiswoode, 1961. 190p, tables, diagrs, bibliog. 15*s*. *Survey of astronomy.*

B Deals with rival theories and their basic methods and observations; gives introduction to relativity, and explains red-shift and the expanding universe.

PANNEKOEK, A. 74
History of astronomy, [tr. from the Dutch]. A & U, 1961. 521p, illus, plates, tables, diagrs, refs. 65*s*.
B Detailed history from earliest times to 1939, showing reaction between astronomy and cultural and social conditions.

PIDDINGTON, J. H. 75
Radio astronomy. Hutchinson, 1961. 128p, plates, diagrs, bibliog. 12*s* 6*d*. *Hutchinson science library*.
B Compact general introduction to various techniques and applications, by authority on staff of Radiophysics Laboratory, Sydney.

THACKERAY, A. D. 76
Astronomical spectroscopy. Eyre & Spottiswoode, 1961. 256p, plate, tables, diagrs, bibliog. 18*s*. *Survey of astronomy*.
A–B Review of theory and practice of spectroscopic research in astronomy, for all readers interested in cosmology.

WILKINS, H. P. *and* MOORE, P. 77
The Moon: a complete description of the surface of the moon, containing the 300-inch Wilkins lunar map. 2nd ed. Faber, 1961. 388p, diagrs, plates, bibliog. 3 *gns*.
B Brings up to date Wilkins's standard work; includes information gained from Russian lunar probes.

53 Physics and Mechanics

COTTRELL, T. L. *and* MCCOUBREY, J. C. 78
Molecular energy transfer in gases. Butterworths, 1961. viii,205p, tables, diagrs, bibliog. 45*s*.
B–C Discusses experimental techniques and results giving simple physical picture useful to new research chemists.

HOARE, F. E. *and others, eds* 79
Experimental cryophysics, ed. by F. E. Hoare, L. C. Jackson, N. Kurti. Butterworths, 1961. 388p, illus, tables, diagrs, bibliogs. 75*s*.
B Virtually an instruction manual for building, equipping, and maintaining a low-temperature laboratory.

LACHMANN, G. V. *ed*. 80
Boundary layer and flow control: its principles and application. Oxford, NY [etc], Pergamon P, 1961. illus, tables, diagrs, bibliogs. 2v. 10 *gns*; $35.
C Vol. 1. xii,600p. Vol. 2. vi,601–1360p. Outstanding survey on all aspects of boundary layer control for aircraft. Extensive bibliography and indexes. For aerodynamic engineers.

MERZBACHER, E. 81
Quantum mechanics. NY, London, Wiley, [1961]. xii,544p, diagrs, bibliog. $12; 96*s*.
B–C Non-relativistic treatment bridging gap between first degree work and more sophisticated concepts of uncertainty, the WKB approximation method, scattering, symmetry, spin, matrix methods, and Dirac's Bra-Ket notation. 250 exercises and problems.

SCHEIDEGGER, A. E. 82
Physics of flow through porous media. Rev. [2nd] ed. Toronto, Toronto UP, 1960; London, OUP, [1961]. xvi,313p, tables, diagrs, bibliog. $16.50; 132*s*.
C Summarizes, mainly for technologists, the basic physical principles and differential equations.

SMITH, R. A. 83
Wave mechanics of crystalline solids. C & H, 1961. xv,473p, tables, diagrs. 4 *gns*.
B-C Readable, detailed introduction to basic theory of propagation of electron and elastic waves in solids for engineers and experimental physicists concerned with electrical, thermal, and magnetic properties of matter.

TRIBUS, M. 84
Thermostatics and thermodynamics: an introduction to energy, information, and states of matter, with engineering applications. Princeton (NJ), London [etc], Van Nostrand, [1961]. xxxii,649p, illus, tables, diagrs. $10.95; 60*s*.
B New fundamental approach employing information theory, statistical mechanics, and quantum theory, based on proposals by Prof. E. T. Jaynes, now of Washington University. Chiefly for engineering students.

537 *Electricity*

DRABBLE, J. R. *and* GOLDSMID, H. J. 85
Thermal conduction in semiconductors. Oxford, NY [etc], Pergamon P, 1961. ix,235p, tables, diagrs, bibliog. 60*s*; $10. *International series of monographs on semiconductors, vol. 4.*
C Survey of recent theories and experimental investigations of transport of heat by electrons and lattice waves.

KAY, D. *ed.* 86
Techniques for electron microscopy; with a preface by V. E. Cosslett. Oxford, Blackwell Scientific, 1961. xvii,331p, illus, tables, diagrs, bibliogs. 3 *gns*.
C Indispensable collection of specimen and operational techniques, many of them previously unpublished. Extensive index and comprehensive references.

54 Chemistry

BADGER, G. M. 87
Chemistry of heterocyclic compounds. NY, London, Academic P, 1961. ix,498p, tables, diagrs, bibliogs. $12; 86*s*. *Organic and biological chemistry: a series of monographs, no. 5.*
B Well-balanced textbook, with special emphasis on natural products. For senior undergraduates and graduate students.

INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY 88
Abstracts of scientific papers presented at the XVIIIth international congress of pure and applied chemistry, Montreal, Canada, August, 1961. Toronto, Toronto UP, 1961; [London, OUP, 1962]. v,290p, $6; 48*s*.
C Mainly on physical and applied chemistry; smaller section on analytical, and few papers on organic chemistry.

89
MELLOR's Comprehensive treatise on inorganic and theoretical chemistry; vol. 2, supplement 2, the alkali metals, part 1, prepared under the direction of an editorial board. Longmans, 1961. xxxix,1458p, tables, diagrs, bibliogs. 300*s* until 31st May 1962; 360*s* thereafter.
C Brings up to date account of chemical and physical properties, spectroscopy, analytical determination, and biological properties of lithium and sodium and their alloys and most important inorganic compounds.

PINNER, S. H. 90
Practical course in polymer chemistry. Oxford, NY [etc], Pergamon P, 1961. xv,156p, tables, diagrs. 25*s*; $4.50.
B Clear instructions in forty-one experiments illustrating preparation of monomers and polymers and their evaluation. Primarily for students of plastics technology.

SYMPOSIUM ON FREE RADICALS 91
Fifth international symposium . . ., July 6–7, 1961, Institute of Physical Chemistry, Uppsala University, Uppsala, Sweden. Stockholm, Almqvist & Wiksell, [1961]. Various paging. Tables, diagrs, bibliogs. 120 *kr*.
C Preprints of almost all the plenary lectures and of seventy-five papers presented, with account of current work at Uppsala. Few papers in French and German.

55 Geology. Meteorology

BASCOM, W. 92
Hole in the bottom of the sea: the story of the mohole project. Weidenfeld and Nicolson, 1961. 352p, illus, tables, diagrs, bibliogs. 25*s*.
A

JOHNSON, F. S. *ed.* 93
Satellite environment handbook. Stanford (Cal), Stanford UP; [London, OUP], 1961. 155p, $5.50; 44*s*.
C Available data describing geophysical environment met by earth satellites.

KURNOSOVA, L. V. *ed.* 94
Artificial earth satellites, tr. from the Russian. NY, Plenum P, 1961. Illus, tables, diagrs, bibliogs.
C Vols 3–5. viii,576p. 3v in 1, $15. Thirty-seven papers on Soviet research in passive orbit mechanics and satellite–home space physics experiments. Vol. 6. vi,170p. $7.50. Results from third Russian artificial satellite and geophysical rocket experiments, including discovery of 10 kev electrons in the upper atmosphere up to 1900 km. Typewriter script.

NAIRN, A. E. M. *ed.* 95
Descriptive paleoclimatology. NY, London, Interscience, 1961. xi,380p, illus, plates, tables, diagrs, bibliogs. 80*s*.
C Comprehensive series of essays on the climate of past ages.

PASQUILL, F. 96
Atmospheric diffusion: the dispersion of windborne material from industrial and other sources. London, Princeton (NJ) [etc], Van Nostrand, [1961]. xii, 297p, tables, diagrs, bibliog. 60*s*.
C Review of ideas and information available up to 1959, dealing with statistical concepts of turbulence as well as with practical applications. For meteorologists, physicists, and other scientists concerned with air pollution.

RITCHIE, D. J. *ed.* 97
Ball lightning: a collection of Soviet research in English translation, ed. and with an intro. and annotated bibliography comp. by D. J. Ritchie. NY, Consultants Bureau, 1961. 70p, illus, diagrs, bibliog. $12.50.
C Interesting and authoritative account of original work on rare phenomenon, filling gap in literature of atmospheric electricity.

SYMPOSIUM ON ARCTIC GEOLOGY 98
Geology of the Arctic: proceedings of the first international symposium . . ., held in Calgary, Alberta, January 11–13, 1960 under the auspices of the Alberta

Society of Petroleum Geologists, ed. by G. O. Raasch. Toronto, Toronto UP; [London, OUP], [1961]. xv,732; vi,733–1196p, illus, tables, diagrs, bibliogs. 2v., with maps in box. $25.50; 204*s*.

C Important collection of papers, chiefly by North American, Scandinavian, and Russian authors. Topics include stratigraphy, tectonics, geomorphology, climatology, glaciology and permafrost, geophysics, and exploration methods.

56 Palaeontology

ANDREWS, H. N. 99

Studies in paleobotany, with a chapter on polynology by C. J. Felix. NY, London, Wiley, [©1961]. xii,487p, illus, diagrs, bibliog. $11.75; 94*s*.

B General account of fossil plants. Mainly systematic.

JOINT COMMITTEE ON INVERTEBRATE PALEONTOLOGY 100

Treatise on invertebrate paleontology; ed. by R. C. Moore; part Q, arthropoda 3, crustacea, ostracoda, by R. H. Benson and others. NY, Geological Society of America; Lawrence (Kan), Kansas UP, 1961. xxiii,442p, illus. $11.50.

C Useful addition to series in which are described and figured all known fossil genera.

57 Anthropological and Biological Sciences

577.1 *Biochemistry*

GREENBERG, D. M. *ed.* 101

Metabolic pathways (second edition of *Chemical pathways of metabolism*); vol. 2. NY, London, Academic P, 1961. xiii,814p, illus, tables, diagrs, bibliogs. $24; 171*s* 6*d*.

C Almost completely new work, on metabolism of amino acids, other nitrogen-containing compounds, and some sulphur-containing compounds. Up to date and fully documented.

INTERNATIONAL UNION OF BIOCHEMISTRY. Commission on Enzymes 102

Report, 1961. Oxford, NY [etc], Pergamon P, 1961. [6],159p, tables. 50*s*; $7.50. *IUB symposium series.*

D Recommendations on nomenclature and usage concerning enzyme units and kinetics, nomenclature and classification of cytochromes, enzymes, and co-enzymes, and terminology of enzyme formation. Includes lists of enzymes and cytochromes.

6 APPLIED SCIENCES

62 Engineering and Technology

JOHNSON, V. J. *ed.* 103

Properties of materials at low temperature (phase 1); a compendium. Oxford, NY [etc], Pergamon P, 1961. Various paging. Tables, diagrs, bibliogs. 200*s*; $30.

D Data sheets from US National Bureau of Standards, invaluable to cryogenic engineers and physicists. Literature has been extensively surveyed and best values selected.

104

RECENT advances in stress corrosion: a symposium sponsored by the Corrosion Committee of the Royal Swedish Academy of Engineering Sciences, Stockholm, Sweden, ed. by A. Bresle. Stockholm, Almqvist & Wiksell, 1961. 107p, illus, tables, diagrs, bibliog. 20 *kr. Bulletin no. 25.*

B–C Two background papers by English authors and seven Swedish research papers give picture of modern trends in stress corrosion studies. Chronological bibliography.

621 *Mechanical and Electrical Engineering*

ENGINEERING EQUIPMENT USERS' ASSOCIATION 105
Vacuum producing equipment. Constable, 1961. xiii,100p, tables, diagrs, 18*s*.
B Useful guide for managements wishing to install this equipment and basis for discussion with specialist suppliers.

PIRANI, M. *and* YARWOOD, J. 106
Principles of vacuum engineering. C & H, 1961. xii,578p, plates, tables, diagrs, bibliog. 5 *gns*. *Vacuum engineering series*.
B–C First volume of new series, giving up-to-date survey of practical aspects of vacuum science and technology.

621.3 *Electrical Engineering*

BEWLEY, L. V. 107
Tensor analysis of electric circuits and machines. NY, Ronald P, 1961. vi,309p. $12.
B Gives essential principles with applications of Kron's matrix-tensor method of analysis.

GAYFORD, M. L. 108
Acoustical techniques and transducers: loudspeakers, microphones, gramophone pick-ups, room acoustics, vibration measurements, stereophonic reproduction. Macdonald & Evans, 1961. xx,372p, illus, tables, diagrs, bibliogs. 50*s*.
B Covers acoustical and vibratory theory, design parameters of loudspeakers, microphones, and pickups, vibration measuring equipment, and studio and listening room acoustics. For professional engineers, architects, and hi-fi enthusiasts.

KU, Y. H. 109
Transient circuit analysis. Princeton (NJ), London [etc], Van Nostrand, [1961]. xiv,441p, tables, diagrs. $13; 79*s*. *Electronics and communications series*.
C Broad treatment combining Fourier and Laplace transform approach. For electrical and mechanical engineers, physicists, and applied mathematicians.

MOIR, J. 110
High quality sound reproduction. 2nd ed. C & H, 1961. xv,660p, illus, tables, diagrs, bibliogs. 75*s*.
B Completely revised; chapters on disc and magnetic recording and stereophonic reproduction rewritten. For professional engineers and enthusiastic amateurs. Most of the Mathematics has been concentrated into appendixes.

TEPPER, M. 111
Basic radio. NY, Rider, [©1961]. Tables, diagrs. 6v. in 1. $13.85 (paper); $14.85 (cloth).
B Vol. 1, dc electricity. vi,138p. $2.70. Vol. 2, ac electricity. vi,138p. $2.70. Vol. 3, electron tube circuits. vi,138p. $2.70. Vol. 4, am and fm receivers. vi,122p. $2.50. Vol. 5, transistors. vi,66p. $1.90. Vol. 6, transmitters. vi,154p. $2.70. Excellent elementary treatise with explanatory diagrams on every page, by experienced teacher. American conventions. Available in one volume or separately.

WALDRON, R. A. 112
Ferrites: an introduction for microwave engineers. London, Princeton (NJ) [etc], Van Nostrand, [1961]. xv,240p, tables, diagrs, bibliog. 50*s*. *Marconi series*.
C Authoritative account of perturbation theory and exact theory of ferrite-loaded waveguides and cavities, with introduction to basic magnetism, non-linear theory, and devices. Educational value increased by extensive bibliography.

624 *Structural Engineering*

GUMENSKII, B. M. *and* KOMAROV, N. S. 113
Soil drilling by vibration, tr. from the Russian. NY, Consultants Bureau, 1961. 80p, illus, tables, diagrs, bibliogs. $12.50.
C Describes theory and development of vibratory methods of forming holes for geological exploration and soil sampling, extending work of D. D. Barkan. Typewriter script.

LIGHTFOOT, E. 114
Moment distribution: a rapid method of analysis for rigid-jointed structures, with a foreword by R. H. Evans. Spon, 1961. xix,363p, tables, diagrs, bibliog. 67*s* 6*d*. *Civil engineering series.*
B–C Textbook on the Hardy Cross method, gathering together much recent work on moment distribution into useful reference for practising engineers and academic workers.

MANNING, G. P. 115
Design and construction of foundations. Concrete Publications, 1961. vi,234p, illus, tables, diagrs. 24*s*. *Concrete series.*
B General survey, for civil engineers, of foundation work on land sites.

PARKER, H. 116
Simplified engineering for architects and builders. 3rd ed. NY, London, Wiley, [1961]. xvi,325p, tables, diagrs. 56*s*.
B Introduction to principles of mechanics; timber, steel, and reinforced concrete construction: and roof trusses.

629.1 *Transport Engineering*

PARKES, G. R. 117
Railway snowfighting equipment and methods. Hadfield, Hyde (Ches), the author, 1961. 103p, illus, diagrs. 15*s*.
A

TODD, F. H. 118
Ship hull vibration. Edward Arnold, 1961. vii,364p, plate, tables, diagrs, bibliog. 5 *gns*.
C Critical review of published information and research, bringing together all essentials in convenient form.

66 Chemical Technology

DENNIS, W. H. 119
Metallurgy in the service of man. Macdonald, 1961. ix,372p, tables, diagrs, bibliogs. 45*s*.
A Concise review of metallurgy and its industrial applications, particularly in extraction of metals, for technically-minded general reader.

SPEDDING, F. H. *and* DAANE, A. H. *eds*. 120
The rare earths. NY, London, Wiley, [1961]. xi,641p, illus, tables, diagrs, bibliogs. $14.75; 118*s*.
C Reference book including recent developments, with valuable phase diagrams and references. For graduate technologists.

WHITE, P. A. F. *and* SMITH, S. E. 121
Inert atmospheres in the chemical, metallurgical, and atomic energy industries. Butterworths, 1962. viii,235p, illus, tables, diagrs, bibliogs. 50*s*.
B Mine of information. Principles are simple, and authors emphasize important details of technique. Useful chapters on design of working spaces.

67/68 Manufactures

FOSTER, R. 122
Positive let-off motions. Leeds, Wool Industries Research Association, 1961. 37p, illus, plates, diagrs. 15*s*.
B Principles of control of warp tension in wearing with practical information and line drawings of individual motions.

GREAT BRITAIN. FOREST PRODUCTS RESEARCH LABORATORY 123
Identification of hardwoods: a microscope key, by J. D. Brazier and G. L. Franklin, being a revised and enlarged version of the original key devised by S. H. Clarke. HMSO, 1961. viii,96p, plates, tables, bibliog. 10*s*. *Bulletins, no. 46*.
D Description of anatomical features, as seen with microscope, of about 380 commercial hardwoods.

SOLINGER, J. 124
Apparel manufacturing analysis. NY, London, Interscience, [1961]. xv,796p, illus, tables, diagrs, bibliog. $22.50; 169*s*.
B Detailed analysis from raw material to selling, including design, cutting, sewing, pressing and moulding, packaging, and factory organization and administration.

69 Building Industry

ANGERER, F. 125
Surface structures in building: structure and form, [tr. from the German by W. Redlich]. Tiranti, 1961. vi,142p, diagrs, bibliog. 30*s*.
C Translation of *Bauen mit tragenden Flachen*, Munich, 1960. Introduction to design of shell and folded plate structures.

FABER, J. *and* MEAD, F. 126
Foundation design simply explained. London, NY [etc], OUP, 1961. vi,115p, tables, diagrs. 15*s*.
A Elementary introduction to routine operations involved in designing foundations, primarily for architects or surveyors who may be called upon to make a rough design.

127
INTERNATIONAL COUNCIL FOR BUILDING RESEARCH, STUDIES AND DOCUMENTATION
Building research and documentation: contributions and discussions at the first CIB congress, Rotterdam, 1959. Amsterdam, London [etc], Elsevier, 1961. xxiii,500p, illus, tables, diagrs, bibliogs. 160*s*.
B Distributed in English language area by Van Nostrand.

MCGRATH, R. *and* FROST, A. C. 128
Glass in architecture and decoration. New [2nd] ed. rev. by R. McGrath, with a section on 'the nature and properties of glass' rev. by H. E. Beckett. Academic P, 1961. 712p, illus, diagrs, bibliog. 6 *gns*.
A Best collection of photographs of manufacture and use of flat glass. Well documented text clearly presented. Previous edition 1937.

71 Physical planning

TOWN PLANNING INSTITUTE. Research Committee 129
Planning research: a register of research of interest to those concerned with town and country planning. The Institute, 1961. xvi,158p, 18*s* 6*d*.
D Covers the years 1948–58.

Publishers

THE FOLLOWING ABBREVIATIONS ARE USED IN ASLIB BOOK LIST

A & U	Allen & Unwin
B & S	Bailey & Swinfen
C & H	Chapman & Hall
CUP	Cambridge University Press
EUP	English Universities Press
HMSO	Her Majesty's Stationery Office
McG-H	McGraw-Hill
O & B	Oliver & Boyd
OUP	Oxford University Press
R & KP	Routledge & Kegan Paul
T & H	Thames & Hudson
ULP	University of London Press

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March 1962

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3 SOCIAL SCIENCES

37 Education

GILLETT, A. N. *and* SADLER, J. E. 130
Training for teaching: a three year course. A & U, 1962 [i.e. Dec. 61]. 272p, bibliog. 21*s*.

B Study guide rather than textbook. Introduces topics such as development of national system of education, organization of the school, teacher and class, art of teaching, learning process, and curriculum.

KNOX, H. M. 131
Introduction to educational method. Oldbourne, [1961]. 174p, bibliog. 15*s*.

B Study of some important ideas regarding method in education. Written for training college students, but of interest also to more advanced students and qualified teachers.

5 MATHEMATICAL AND NATURAL SCIENCES

RUTHERFORD, E. 132
Collected papers of Lord Rutherford of Nelson, OM, FRS, published under the scientific direction of Sir James Chadwick; vol. 1, New Zealand–Cambridge–Montreal. A & U, 1962. 931p, plates, tables, diagrs. 6 *gns*.

C First of four volumes which will include every scientific paper published by Rutherford, in chronological order.

53 Physics and Mechanics

BOUGUER, P. 133
Pierre Bouguer's *Optical treatise on the gradation of light*, tr. with introduction and notes by W. E. K. Middleton. Toronto, Toronto UP, [©1961]; [London, OUP, 1962]. xv,248p, plate, tables, diagrs. $13; 104*s*.

B Translation of 1760 edition of first definitive study of photometry, now regarded as classic in literature of history of science.

CHERNYI, G. G. 134
Introduction to hypersonic flow, tr. [from the Russian] and ed. by R. F. Probstein. NY, London, Academic P, 1961 [i.e. Jan. 62]. xiv,262p, illus, tables, diagrs, bibliog. $8; 64*s*.

B Covers similarity law, flow past slender bodies, Newton's law and other approximate methods, and effects of leading edge blunting.

FERRI, A. *ed.* 135
Fundamental data obtained from shock-tube experiments. Oxford, NY [etc], Pergamon P for Advisory Group for Aeronautical Research and Development, North Atlantic Treaty Organization, 1961. xi,415p, illus, tables, diagrs, bibliogs. 4 *gns*; $12. *Agardograph no. 41.*

C Ten monographs by experts on major aspects of shock-tube theory and experiment, ranging from basic concepts of unsteady flow theory to interpretation of spectroscopic studies.

GROSS, B. *and* BRAGA, E. P. 136
Singularities of linear system functions. Amsterdam, London [etc]. Elsevier; 1961. viii,90p, tables, diagrs, bibliog. 20*s*. *Elsevier monographs, physics section.*

C Discusses allowed singularities of electrical network functions embracing uniform and non-uniform structures, transients, branch cuts, and pseudo-equivalence of infinite networks. Emphasizes physical understanding and interpretation. Distributed in English language area by Van Nostrand.

JAMMER, M. 137
Concepts of mass in classical and modern physics. Cambridge (Mass), Harvard UP, 1961; London, OUP, [1962]. viii,230p, refs. $3.75; 48*s*.

B Historical and logical treatment from ancient thought to modern field theory. Mathematically rigorous but intelligible to general readers. Well documented.

LA SALLE, J. *and* LEFSCHETZ, S. 138
Stability by Liapunov's direct method with applications. NY, London, Academic P, 1961 [i.e. Jan 62]. vii,134p, diagrs, bibliog. $5.50; 44*s*. *Mathematics in science and engineering: a series of monographs and textbooks, vol. 4.*

B Gives main lines of mathematics of Liapunov's stability theory with applications to controls (e.g. servomechanisms) and to study of practical stability and oscillations. For mathematicians and engineers.

139
PROGRESS in very high pressure research: proceedings of an international conference held at Bolton Landing, Lake George, New York on June 13–14, 1960, sponsored by Materials Central, Wright Air Development Division, Air Research and Development Command, and the General Electric Research Laboratory, Schenectady, New York, ed. by F. P. Bundy, W. R. Hibbard, H. M. Strong. NY, London, Wiley, [1961]. xix,314p, illus, tables, diagrs, bibliogs. $12; 96*s*.

B–C Invited papers deal with equipment for and measurement of very high pressures, changes produced in some other physical properties and their measurement, phase changes, effects on semiconductors and alloys. No index.

SYMPOSIUM ON RAREFIED GAS DYNAMICS 140
Rarefied gas dynamics: proceedings of the second symposium . . ., held at the University of California, Berkeley, California, in 1960, ed. by L. Talbot. NY, London, Academic P, 1961. xv,748p, illus, tables, diagrs, bibliogs. $19; 136*s*. *Advances in applied mechanics, supplement 1.*

C Forty-one papers cover molecular beams, surface interactions, free molecular flow, kinetic theory, low density gas dynamics, and ionized gases.

54 Chemistry

BUSH, I. E. 141
Chromatography of steroids. Oxford, NY [etc], Pergamon P, 1961. xxi,437p, plates, tables, diagrs, refs. 80*s*; $12.50. *International series of monographs on pure and applied biology. Division: biochemistry, vol. 2.*

B Authoritative account of theory and experimental techniques. Well-written introduction for research workers and postgraduate students.

FIESER, L. F. *and* FIESER, M. 142
Advanced organic chemistry. NY, Reinhold; London, C & H, [1962]. ix, 1158p, illus, tables, diagrs. $14; 112*s*.

B–C Important and well-organized text covering aliphatic, alicyclic, and aromatic compounds with special reference to stereochemistry and reaction mechanism. Some very recent work included.

HEADRIDGE, J. B. 143
Photometric titrations. Oxford, NY [etc], Pergamon P, 1961. x,131p, plates, diagrs, bibliog. 45*s*; $7.50. *International series of monographs on analytical chemistry, vol. 4.*
B–C First comprehensive account of theory, practice, and applications of photometry in detection of end-points in titrimetric analysis.

MIALL, L. M. *ed.* 144
New dictionary of chemistry 3rd ed. Longmans, 1961. xi,593p, diagrs. 4 *gns.*
D Extensively revised since second (1949) edition. Compiled by specialists in the various branches.

RAO, C. N. R. 145
Ultra-violet and visible spectroscopy: chemical applications. Butterworths, 1961. xiii,164p, tables, diagrs, bibliog. 30*s*.
C Deals concisely with modern concepts of electronic spectroscopy and their applications to analytical and physico-chemical problems, and particularly to organic structures.

RICE, S. A. *and* NAGASAWA, M. 146
Polyelectrolyte solutions: a theoretical introduction, with a contribution by H. Norawetz. London, NY, Academic P, 1961. xv,568p, tables, diagrs, bibliog. 118*s*; $16.50. *Molecular biology: an international series of monographs and textbooks, vol. 2.*
C Starts with molecular theory of solutions and passes by way of dilute electrolyte solutions to rigid and then to flexible macro-ions. Electrostatic free energy of the latter, characterization of their non-ideal solutions, ion binding, expansion of ions and relaxation effects are considered.

YOUNG, L. 147
Anodic oxide films, London, NY, Academic P, 1961. xiii,377p, illus, tables, diagrs, bibliogs. 70*s*; $11.
C Excellent and comprehensive on the theoretical side, but some of the practical references are misleading.

548 *Crystallography*

TERPSTRA, P. *and* CODD, L. W. 148
Crystallometry, [tr. from the Dutch]. Longmans, 1961. xv,420p, illus, tables, diagrs. 70*s*.
C Authoritative survey of theory, practice, and interpretation of crystal measurements for the purpose of classification and identification.

57 Anthropological and Biological Sciences

GREGORY, P. H. 149
Microbiology of the atmosphere. London, Leonard Hill; NY, Interscience, 1961. xv,251p, plates, tables, diagrs, bibliog. 60*s*. *Plant science monographs.*
B Most complete survey available of study of passively airborne micro-organisms. Deals with identity, movements, and survival.

HARDIN, G. 150
Biology: its principles and implications. San Francisco, London, Freeman, [1961]. xi,682p, illus, tables, diagrs, bibliog. $8; 48*s*.
A Account expressed in terms of modern fundamental ideas such as 'cybernetic equilibria'. Based on American practice, but stimulating to all students and teachers.

SMITH, A. U. 151
Biological effects of freezing and supercooling. Edward Arnold, 1961. xi,462p, illus, tables, diagrs, bibliogs. 55*s*. *Monographs of the Physiological Society, 12.*
C Comprehensive review of recent work on all aspects of cryobiology, which should become standard reference book.

WADDINGTON, C. H. 152
Nature of life. A & U, 1961. 131p, diagrs, bibliog. 18*s*.
A–B Eminent philosopher, embryologist, geneticist, and biochemist presents contemporary scientific picture, related throughout to age-old philosophical questions.

58 Botany

BARTON, L. V. 153
Seed preservation and longevity. London, Leonard Hill; NY, Interscience, 1961. xviii,216p, illus, plates, tables, diagrs, bibliog. 50*s*; $9.25. *Plant science monographs.*
B Authoritative volume containing available information about longevity of seeds under natural and controlled conditions, of particular importance to those concerned with seed storage.

BESSEY, E. A. 154
Morphology and taxonomy of fungi. NY, [London], Hafner, 1961. xiii,791p, illus, bibliogs. 110*s*.
C New impression of 1950 publication, long out of print, which has become standard advanced textbook on fungal morphology.

BUTCHER, R. W. 155
New illustrated British flora; part 2, Ericaceæ to Gramineæ; drawings by F. E. Strudwick and others. Leonard Hill, 1961. [viii],1080p, illus, bibliog. 4 *gns.*
D Completes useful guide to identification with simple keys to families, genera, and species. 939 illustrations in this volume.

CRAFTS, A. S. 156
Translocation in plants. NY, Holt, 1961. x,182p, illus, tables, diagrs, bibliog. $5. *Biology studies.*
B General review of literature on movement of water, salts, and assimilates, etc., followed by detailed sections on absorption by roots, movement in the phloem, and translocation of sugars and radioactive indicators.

157
RECENT developments in the chemistry of natural phenolic compounds: proceedings of the Plant Phenolics Group symposium, ed. by W. D. Ollis. Oxford, NY [etc], Pergamon P, 1961. viii,237p, plate, tables, diagrs, bibliogs. 70*s*; $12.
C Covers structure of plant phenolic compounds and their biosynthesis; indispensable to those interested in phytochemistry and chemical taxonomy.

59 Zoology

BANNERMAN, D. A. 158
Birds of the British Isles, ill. by G. E. Lodge; vol. 10. Edinburgh, London, O & B, 1961. x,320p, plates, refs. 3 *gns.*
B Part of beautifully illustrated and comprehensive reference series. Completes Scolopacidae and deals with Charadriidae, Recurvirostridae, and Haematopodidae.

INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE 159
International code of zoological nomenclature adopted by the 15th international congress of zoology. International Trust for Zoological Nomenclature for the Commission, 1961. xviii,176p, 20s.
D

6 APPLIED SCIENCES

62 Engineering and Technology

621 *Mechanical and Electrical Engineering*

MECHANICAL HANDLING, *comp.* 160

Mechanical handling directory. Iliffe for *Mechanical Handling*, 1962. 440p, illus, tables, 40*s*.

D Classified guide to equipment with French, German, and Spanish indexes. Includes specifications for equipment available in Britain.

621.039 *NUCLEAR ENGINEERING*

161

ADVANCED propulsion techniques: proceedings of a technical meeting sponsored by the Agard Combustion and Propulsion Panel, Pasadena, California, August 24–26, 1960, ed. by S. S. Penner. Oxford, NY [etc], Pergamon P for Advisory Group for Aeronautical Research and Development, North Atlantic Treaty Organization, 1961. x,255p, illus, tables, diagrs, bibliogs. 70*s*; $10.

B–C Surveys nuclear, ion, and magnetohydrodynamic propulsion, with emphasis on application to space missions.

162

ELECTROMAGNETIC separation of radioactive isotopes: proceedings of the international symposium held in Vienna May 23–25, 1960, ed. by M. J. Higatsberger and F. P. Viehboeck. Vienna, Springer-Verlag, 1961. 326p, illus. 97*s*.

C Includes new information on special problems connected with separation of reactor or contaminator reactor material.

HILL, J. F. 163

Textbook of reactor physics: an introduction, prepared under the auspices of the Atomic Energy Authority. A & U, 1961. 227p, tables, diagrs, bibliog. 36*s*.

B Discusses chain reacting systems, reactor types, neutron moderation, critical size, reactor operation, and reactor kinetics. Mainly non-mathematical and links very elementary and advanced theoretical studies.

621.3 *Electrical Engineering*

FANO, R. M. 164

Transmission of information: a statistical theory of communications. Cambridge (Mass), MIT Press; NY, London, Wiley, [©1961]. viii,389p. $7.50; 60*s*.

B Based on lecture notes used in graduate course in MIT Electrical Engineering Department. Primarily for communication engineers.

HEUMANN, G. W. 165

Magnetic control of industrial motors. NY, London, Wiley, [1961]. Illus, tables, diagrs, bibliogs. 3 v. $9; 68*s* each.

E Part 1, alternating-current control devices and assemblies. xv,273p. Part 2, alternating motor controllers. xv,334p. Part 3, direct-current motor controllers. xv,295p. Exhaustive study of types, characteristics, applications, and performance of equipment according to American practice.

HUBERT, C. I. 166

Operational electricity: theory, characteristics, applications, and mode of operation of circuits and machines. NY, London, Wiley, 1961. x,530p, illus, plate, tables, diagrs. $8.50; 68*s*.

B For students taking non-electrical engineering courses.

ROBINSON, F. N. H. 167
Noise in electrical circuits. OUP, 1962. [5],121p, diagrs, bibliog. 15s: *Oxford library of the physical sciences.*
B Introductory account of noise in electronic devices and its effect on performance and sensitivity. For users and designers.

SCROGGIE, M. G. 168
Radio and electronic laboratory handbook. Iliffe for *Wireless World*, 1961. xii,537,xviiip, illus, tables, diagrs, bibliog. 55*s*.
B Greatly enlarged and modified seventh edition of *Radio laboratory handbook.*

621.7 *Workshop Practice*

UNKSOV, E. P. 169
An engineering theory of plasticity, tr. [from the Russian] by Production Engineering Research Association of Great Britain. Butterworths, 1961. xii, 275p, plates, tables, diagrs, bibliog. 70*s*.
C Engineering methods of solution of plasticity problems including drawing, rolling, forging, piercing, and extruding of metals. Valuable account of Russian work.

628 *Public Health Engineering*

ASHER, S. J. 170
Water supply and main drainage. Crosby Lockwood, 1961. xii,84p, plates, diagrs. 12*s* 6*d*.
A Designed to obtain co-operation of architects and town planners by explaining civil engineering problems involved.

CONFERENCE ON WASTE DISPOSAL IN THE MARINE ENVIRONMENT 171
Proceedings of the first international conference . . ., Berkeley, California, 1959, ed. by E. A. Pearson. Pergamon P, [1961]. [9],569p, illus, tables, diagrs, bibliog. 90*s*.
C Includes effects on flora and fauna, diffusion of effluents, analysis of polluted waters, and disposal in estuaries.

ECKENFELDER, W. W. *and* O'CONNOR, D. J. 172
Biological waste treatment. Oxford, NY [etc], Pergamon P, 1961. vii,299p, plates, tables, diagrs, refs. 65*s*; $10.
C Brings together essential information on recent advances, techniques, etc., and a rational mathematical approach to treatment of wastes and the associated engineering problems.

RICH, L. G. 173
Unit operations of sanitary engineering. NY, London, Wiley, [1961]. xi,308p, tables, diagrs. $10.75; 81*s*.
B Makes available in compact form the basic principle of various physical processes necessary when dealing with variety of sanitary engineering problems.

WALSH, J. W. T. 174
Science of daylight. Macdonald, 1961. x,285p, illus, tables, diagrs, bibliogs. 40*s*.
B Deals with measurement and specification of daylight, design, and distribution of windows in buildings used for various purposes, and efficient use of daylight in town planning.

63 Agriculture. Forestry. Livestock. Fisheries

BAZHENOV, V. A. 175
Piezoelectric properties of wood; tr. from the Russian. NY, Consultants Bureau, 1961. xii,180p, illus, tables, diagrs, bibliog. $9.50.
C Detailed examination of development of electrical charges in wood when subjected to mechanical loading.

COOPER, M. M. 176
Grass farming. Ipswich, Dairy Farmer Books, 1961. 246p, plates, tables, diagrs. 30*s*.
B Written for farmers rather than for students by Dean of Agriculture, King's College, Newcastle upon Tyne, with help of a number of practical farmers.

CRAFTS, A. S. 177
Chemistry and mode of action of herbicides. NY, London, Interscience, 1961. ix,269p, illus, tables, diagrs, bibliog. $9; 68*s*.
B

FREE, M. 178
Plant pruning in pictures: how, when, and where to prune, and with what tools. London, Museum P; [NY, Doubleday], 1961. 286p, illus, plate, diagrs. 32*s* 6*d*; $4.95.
B Sets out to cover pruning of various groups of plants including trees, shrubs, house plants, vegetables, and fruit; techniques for production of espaliered and standard plants, topiary and pleached allée, and for control of pests and diseases.

KLINGMAN, G. C. 179
Weed control as a science, by G. C. Klingman with the editorial assistance of L. J. Noordhoff. NY, London, Wiley, [1961]. viii,421p, illus, tables, diagrs, bibliogs. $8.50; 68*s*.
B Students' textbook written primarily for Americans. Intended to bring readers up to date with fast-moving science; both old and new methods are discussed.

OLIVIER, H. 180
Irrigation and climate: new aids to engineering, planning and development of water resources. Edward Arnold, 1961. VIII,250p, plates, tables, diagrs, bibliog. 100*s*.
C Provides relatively simple methods for estimating crop-water requirements and evaporation losses from climatological data, particularly suitable for less developed areas where these records are sparse.

SINGER, R. 181
Mushrooms and truffles: botany, cultivation, and utilization. London, Leonard Hill; NY, Interscience, 1961. xxiii,272p, plates, tables, diagrs, bibliog. 60*s*; $10.25. *World crop books*.
B Gives important data, thus enabling reader to judge and appreciate role played by scientific development.

66 Chemical Technology

COHEN, H. *and* LINTON, G. E. 182
Chemistry and textiles for the laundry industry. NY, Textile Book Publishers; London, Interscience, 1961. xi,429p, illus, tables, diagrs, bibliog. 113*s*.
B Comprehensive textbook including chemistry of water, soaps, synthetic detergents, bleaches, blues, starches, etc; chemical tests used in laundries; characteristics of natural and synthetic textile fibres; dyeing and drycleaning; and causes of defects in fabrics.

GAS CHROMATOGRAPHY INSTITUTE 183
Progress in industrial gas chromatography; vol. 1, proceedings of the third annual . . . institute held at Canisius College in Buffalo, New York, April 4–6, 1961, ed. by H. A. Szymanski. NY, Plenum P, 1961. [3],235p, illus, tables, diagrs, bibliogs. $8.50 (domestic); $10 (foreign).
C Ten contributions on technique, one on analysis of odours, flavours, and air pollution, and one on ureaformaldehyde resins.

GREAT BRITAIN. Ministry of Agriculture, Fisheries and Food 184
Accelerated freeze-drying (AFD) method of food preservation: a report on some work of the Research Establishment and Experimental Factory of the Ministry of Agriculture, Fisheries and Food, Aberdeen, Scotland, between 1955 and 1960. HMSO, 1961. vi,169p, plates, tables, diagrs, refs. 12*s* 6*d*.
C Half the book is devoted to engineering aspects and half is concerned with food. Describes in detail difficulties encountered and methods adopted or proposed to overcome them.

KHORANA, H. G. 185
Some recent developments in the chemistry of phosphate esters of biological interest. NY, London, Wiley, [1961]. x,141p, tables, diagrs, bibliog. $5.25; 40*s*.
B–C Leading authority presents present position from point of view of organic chemist concerned with development and application of synthetic organic techniques.

186
POWDERS in industry: comprising papers (with discussions) read at a symposium organized by the Surface Activity Group held on 29–30 September, 1960 at the Royal Institution, London, W.1. Society of Chemical Industry, 1961. v,447p, illus, tables, diagrs, bibliog. 66*s*. *SCI monograph no. 14*.
C For research workers concerned with properties, preparation, and applications.

RAGOZIN, N. A. 187
Jet propulsion fuels, tr. from the Russian by W. E. Jones, tr. ed. B. P. Mullins. Oxford, NY, Pergamon P, 1961. ix,168p, plate, tables, diagrs, bibliogs. 55*s*; $8.50. *International series on aeronautics and astronautics. Division 3: propulsion systems including fuels, vol. 3.*
C Describes physical and chemical properties of American and European jet-propulsion fuels, and discusses significance and relative importance of fuel-testing methods currently employed.

67/68 Manufactures

681 *Precision Mechanisms*

LINFORD, A. 188
Flow measurement & meters. 2nd ed. Spon, 1961. xxxii,430p, illus, tables, diagrs, bibliogs. 70*s*.
B Practical textbook on flow measurement in closed and open conduits. Revised and enlarged since 1949 edition.

WARD, T. G. C. *and* BLAKEY, G. W. 189
Slide rule for students of science and engineering. 2nd ed. EUP, 1961. x,11–116p, tables, diagrs. 7*s* 6*d*. *General technical series.*
B Revised and expanded since 1955 edition. New chapter on theory of slide rule scales. Many worked examples and exercises with answers.

WILLIAMS, R. W. 190
Analogue computation: techniques and components. Heywood, 1961. 271p, tables, diagrs, bibliog. 52*s*.
C Fills a gap in the literature left by books on systems and problem solving. Includes a.c. methods of computation and use of transistors in operational amplifiers, multipliers, etc.

77 Photography

BARRETT, W. J. *comp.* 191
Glossary of photocopying terms. Hall Harding Ltd, [1961]. 45p. 3*s* 6*d*.
D Over 200 terms having meanings special to photocopying and giving some basis for standardization.

Publishers

THE FOLLOWING ABBREVIATIONS ARE USED IN ASLIB BOOK LIST

A & U	Allen & Unwin
B & S	Bailey & Swinfen
C & H	Chapman & Hall
CUP	Cambridge University Press
EUP	English Universities Press
HMSO	Her Majesty's Stationery Office
McG-H	McGraw-Hill
O & B	Oliver & Boyd
OUP	Oxford University Press
R & KP	Routledge & Kegan Paul
T & H	Thames & Hudson
ULP	University of London Press

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5 MATHEMATICAL AND NATURAL SCIENCES

51 Mathematics

CHIRGWIN, B. H. *and* PLUMPTON, C. 192
Course of mathematics for engineers and scientists. Oxford, NY [etc], Pergamon P, 1961. Diagrs.
B Vol. 1. vi,326p, 25*s*; $6.50. Vol. 2. vi,382p, 30*s*; $7.50. First volumes of projected series of seven covering mathematics required for engineering degree. Mostly calculus with one or more variables, and some geometry. Clearly set out with many worked and unworked examples.

CROWDER N. A. *and* MARTIN G. C. 193
Adventures in algebra, consultant ed. R. Goodman. EUP, [1962]. viii,350p, tables, diagrs. 25*s*. *Tutortexts*.
A Ingenious and well-organized text which, by questions with right and wrong answers, in easy informal style, introduces beginner to algebraic symbolism and concept of number fields. American edition published by Doubleday 1960.

DREW, T. B. 194
Handbook of vector and polyadic analysis. NY, Reinhold; London, C & H, [1962]. viii,103p, tables, diagrs. bibliog. $5.50; 44*s*.
B Presents vector and tensor concepts required in fluid dynamics, diffusion theory, electromagnetic theory, and heat transmission. Extends Gibbs analysis to polyadics of any rank.

ELSGOLC, L. E. 195
Calculus of variations, [tr. from the Russian]. Oxford, NY [etc], Pergamon P, 1961. 178p, diagrs. 30*s*; $5. *International series of monographs on pure and applied mathematics, vol. 19.*
B Introduction to basic variational methods and problems, suitable for technologists, with many worked and unworked examples and a chapter on modern 'direct' methods.

FUCHS, B. A. *and* LEVIN, V. I. 196
Functions of a complex variable; vol. 2, tr. [from the Russian] by J. Berry, ed. by T. Kövari. NY, Oxford [etc], Pergamon P, 1961. x,286p, diagrs. $7.50; 50*s*. *International series of monographs on pure and applied mathematics, vol. 21.*
B Special topics are theory of differential equations, theory of Laplace transform and its inversion, asymptotic expansions, and the Routh-Hurwitz stability criteria.

FURSTENBERG, H. 197
Stationary processes and prediction theory. Princeton (NJ), Princeton UP, 1960; [London, OUP, 1962]. [11],283p, bibliog. $5; 40*s*. *Annals of mathematics studies, no. 44.*
C Technical monograph for specialists, developing theory of linear prediction and extrapolation from past to future, due primarily to Wiener and Kolmogoroff.

KEENE, G. B. 198
Abstract sets and finite ordinals: an introduction to the study of set theory. Oxford, NY [etc], Pergamon P, 1961. x,106p, table, diagrs, bibliog. 21*s*; $3.50. *International series of monographs on pure and applied mathematics, vol. 23.*
B Useful introduction to set theory for undergraduates studying intermediate or advanced logic; also for mathematicians and general readers as an introduction to the Bernays theory.

KULCZYCKI, S. 199

Non-euclidean geometry, tr. from Polish by S. Knapowski. Oxford, NY.[etc], Pergamon P; Warsaw, Panstwowe Wydawnictwo Naukowe, [© 1961]. 208p, tables, diagrs. 70*s*; $10. *International series of monographs on pure and applied mathematics, vol. 16.*

B Well-written account of main theorems and foundations of Lobatchevsky's non-euclidean geometry, suitable as preparation for more advanced treatises.

KURATOWSKI, K. 200

Introduction to calculus, tr. from Polish by J. Musielak. Oxford, NY [etc], Pergamon P; Warsaw, Panstwowe Wydawnictwo Naukowe, [1962]. 315p, diagrs. 35*s*; $5. *International series of monographs on pure and applied mathematics, vol. 17.*

C Sequences and series, functions, differential and integral calculus. Examples and exercises.

KURATOWSKI, K. 201

Introduction to set theory and topology, tr. from the rev. Polish ed. by L. F. Boron. NY, Oxford, [etc]. Pergamon P; Warsaw, Panstwowe Wydawnictwo Naukowe, [© 1961]. 283p, diagrs, bibliogs. $7.50; 45*s*. *International series of monographs on pure and applied mathematics, vol. 13.*

B First discusses axiomatics, cartesian products, cardinals, and well ordered sets; deals secondly with various topological spaces, dimension theory, Jordan's theorem, and elements of algebraic topology.

LINNIK, I. V. 202

Method of least squares and principles of the theory of observations, tr. from the Russian by R. C. Elandt, ed. by N. L. Johnson. Oxford, London, Pergamon P, 1961. xii,360p, tables, diagrs, bibliog. 4 *gns*.

C New and only translation of most important Russian work.

203

POPULAR lectures in mathematics; vols 1–6, tr. from the Russian by H. Moss, tr. ed. by I. N. Sneddon. Oxford, NY [etc], Pergamon P, 1961. Various paging, diagrs, bibliog. 50*s*; $8.50.

A Vol. 1, method of mathematical induction; vol. 2, Fibonacci numbers; vol. 3, some applications of mechanics to mathematics; vol. 4, geometrical constructions using compasses only; vol. 5, ruler in geometrical constructions; vol. 6, inequalities. Typewriter script. Available separately in paper covers. Should interest mathematical amateurs and provide useful background for sixth-form and first-year university work. Clear exposition, and readers are encouraged to think for themselves.

SCHWERDTFEGER, H. 204

Geometry of complex numbers. Edinburgh, London, O & B, 1962. xi,186p, diagrs, bibliog. 30*s*.

C Covers analytic geometry of circles, the Mobius transformation, and two-dimensional non-euclidean geometries. Allies abstract algebra, geometry, and analysis.

STUART, R. D. 205

Introduction to Fourier analysis. Methuen, 1961. 126p, diagrs, bibliog. 13*s* 6*d*. *Monographs on physical subjects.*

B Brief survey of Fourier series and integrals for undergraduates in science and engineering.

SYMPOSIUM ON LINEAR SPACES 206

Proceedings of the international symposium . . ., held at the Hebrew University of Jerusalem, July 5–12, 1960. Jerusalem, Jerusalem Academic P; Oxford, NY [etc], Pergamon P, 1961. xi,452p, bibliogs. 100*s*; $14. *Israel Academy of Sciences and Humanities publications.*

C Thirty-two research papers by experts from many countries.

TITCHMARSH, E. C. 207
Eigenfunction expansions associated with second-order differential equations; part 1. 2nd ed. Oxford, Clarendon P, 1962. [6],203p, bibliog. 2 *gns*.
C Pure mathematics text now including recent improvements in methods and results.

WOOLDRIDGE, R. 208
Introduction to computing. London, NY [etc], OUP, 1962. x,217p, tables, diagrs, bibliog. 30*s*.
B Assuming knowledge of advanced school mathematics, covers wide range of computational methods, starting with basic elements.

52 Astronomy. Surveying. Geodesy

BEER, A. *ed.* 209
Vistas in astronomy; vol. 4, astronomical history, celestial mechanics, geophysics, artificial satellites, solar research, astrophysics. Oxford, NY [etc], Pergamon P, 1961. [5],194p, illus, tables, diagrs, bibliog. 75*s*; $12.
C Seven papers by specialists, on archeomagnetism, an 8th-century Chinese meridian survey, etc. Principal article is Sir Harrie Massey's masterly survey of scientific uses of artificial satellites and results obtained up to 1959.

SANDOVER, J. A. 210
Plane surveying, including chapters on photogrammetry by D. H. Maling. Edward Arnold 1961. viii,424p, illus, tables, diagrs, bibliogs. 35*s*.
B For students reading first-year university and similar courses in surveying; covers wider field than title indicates. Admirable and concise treatment of photogrammetry.

53 Physics and Mechanics

BREENE, R. G. 211
Shift and shape of spectral lines. Oxford, NY [etc], Pergamon P, 1961. XII,323p, tables, diagrs, bibliog. 5 *gns*; $15.
C Detailed treatise on theory of broadening and shift of gaseous spectral lines; should interest research workers in spectroscopy, astrophysics, and astronautics.

DONOVAN, A. F. *and others, eds* 212
High speed problems of aircraft and experimental methods. [Princeton (NJ), Princeton UP]; London, OUP, 1961 [i.e. Mar 62]. xvi,976p, plates, tables, diagrs, bibliogs. $22.50; 160*s*. *High speed aerodynamics and jet propulsion, vol. 8.*
C Includes sections by various experts on performance, stability and control, aeroelasticity and flutter, wind tunnel and flight test techniques. Useful postgraduate reference book.

FEATHER, N. 213
Introduction to the physics of vibrations and waves. Edinburgh, Edinburgh UP, [1962]. viii,330p, table, diagrs. 30*s*. *Science and mathematics texts, 4.*
B Explanatory account, for second-year undergraduates, of basic physical concepts underlying and unifying study of vibrations in strings, rods, and gasses, propagation of disturbances in solids and liquids, interference, diffraction, and the wave-particle duality of nature. Distributed by Nelson.

FRIDKIN, V. M. *and* ZHELUDEV, I. S. 214
Photoelectrets and the electrophotographic process, tr. from the Russian by A. Tybulewicz. NY, Consultants Bureau, [1961]. xii,195p, illus, tables, diagrs, bibliog. $12.50.
C Authoritative survey of recent theories, experimental aspects, and applications of production of permanent polarization in dielectrics subjected to combined action of a polarizing electric field and electromagnetic radiation ranging from light to gamma rays.

GOETHERT, B. H. 215
Transonic wind tunnel testing, ed. by W. C. Nelson. Oxford, NY [etc], Pergamon P for Advisory Group for Aeronautical Research and Development, North Atlantic Treaty Organization, 1961. xvii,397p, illus, tables, diagrs, bibliogs. 5 *gns*; $17.50. *Agardograph no. 49.*

C Valuable book presenting for first time in comprehensive form the practice and theory of fascinating if somewhat esoteric subject.

JEFFREYS, H. 216
Theory of probability. 3rd ed. Oxford, Clarendon P, 1961. ix,447p, tables, diagrs. 4 *gns. International series of monographs on physics.*

B In this edition the author has developed more fully the proof of his theory, and also other proofs, the object still being to provide a logically satisfactory and practical technique of inductive inference.

LINDSAY, R. B. 217
Physical mechanics. 3rd ed. Princeton (NJ), London [etc], Van Nostrand, 1961. ix,471p, tables, diagrs. 60*s*. *University physics series: a group of text books for intermediate and advanced courses.*

B Revision which now includes new material on ballistic missiles, artificial satellites, energy conservation, impulse and momentum, statistical mechanics, wave motion, special relativity, and quantum mechanics.

ROHSENOW, W. M. *and* CHOI, H. Y. 218
Heat, mass, and momentum transfer. Prentice-Hall, [1962]. xxii,537p. illus, tables, diagrs, bibliogs. 70*s*. *Prentice-Hall series in engineering and the physical sciences.*

C Well-written, thorough text with full references and many numerical problems and examples.

SEMENCGENKO, V. K. 219
Surface phenomena in metals and alloys, tr. from the Russian by N. G. Anderson, ed. by R. Kennedy. Oxford, NY [etc], Pergamon P, 1961. xx,466p, tables, diagrs, bibliog. 5 *gns*; $17.50.

C Treats comprehensively and systematically the experimental methods, theory, and significance of surface tension and adsorption phenomena in metals and alloy systems in the liquid state, with some discussion of solids. Typewriter script.

WALLER, M. D. 220
Chladni figures: a study in symmetry. Bell, 1961. xxii,163p, illus, tables, diagrs, bibliog. 2 *gns*.

A–B Well produced and beautifully illustrated account of Dr Mary Waller's experiments and deductions concerning vibratory modes of symmetrical plates.

539.1 *Nuclear Physics*

BORN, M. 221
Atomic physics, tr. [from the German] by J. Dougall. 7th ed. rev. by the author in collaboration with R. J. Blin-Stoyle. London, Glasgow, Blackie, 1962. xiv,459p, plates, tables, diagrs, bibliog. 40*s*.

B Previous edition 1957. Alterations apply especially to treatment of wave mechanics and their application to the atomic nucleus. Concept of parity and its application have been introduced.

MARTIN, C-N. 222
The atom: friend or foe?, tr. [from the French] by T. Shoeters. London, Toronto [etc], Harrap, 1962. 236p, plates, tables, diagrs. 25*s*.

A Deals mainly with dangers arising from large-scale releases of radioactivity. Well-documented presentation of facts based on world-wide experimental work.

RUTHERFORD JUBILEE INTERNATIONAL CONFERENCE 223
Proceedings of the . . . conference, Manchester 1961, ed. by J. B. Birks. Heywood, 1961. 856p, plate, tables, diagrs, refs. 9 *gns.*
C Complete set of abstracts and preprints of contributed and invited papers, and record of proceedings. Commendably quick publication.

WILLIAMS, W. S. C. 224
Introduction to elementary particles. NY, London, Academic P, 1961 [i.e. Jan 62]. ix,406p, tables, diagrs, bibliog. $11; 88*s*. *Pure and applied physics: a series of monographs and textbooks, vol. 12.*
B–C Discusses quantum-mechanical theory and the application to this field. Coverage is wide rather than detailed, but with references for further study. For research workers in experimental elementary particle physics.

54 Chemistry

BAREŠ, J. *and others* 225
Collection of problems in physical chemistry, by J. Bareš, tr. [from the 2nd Czech ed.] by H. Watney. Oxford, NY [etc,] Pergamon P, 1961. xviii,608p, tables, diagrs. 70*s*; $10.50.
B More than 200 detailed worked calculations of numerical values from experimental data, mainly from original literature. Based on course at Institute of Chemical Technology in Prague.

226
CHYMIA: annual studies in the history of chemistry, ed. by H. M. Leicester; vol. 7. Philadelphia, Pennsylvania UP, 1961; London, OUP, [1962]. 152p, illus, refs. $5; 40*s*.
B Latest volume in this important annual contains nine original papers from the ancient Greeks and Indian alchemists to Berzelius and Sir Humphry Davy.

DURRANT, P. J. *and* DURRANT, B. 227
Introduction to advanced inorganic chemistry. Longmans, 1962. xv,1171p, plates, tables, diagrs. 95*s*.
B Comprehensive textbook for senior university students, covering subject to specialized level of both theoretical and descriptive chemistry.

ELWELL, W. T. *and* GIDLEY, J. A. F. 228
Atomic-absorption spectrophotometry. Oxford, NY [etc], Pergamon P, 1961. vii,102p, tables, diagrs, bibliog. 30*s*; $5. *International series of monographs on analytical chemistry, vol. 6.*
C Useful description of present status of relatively new method of determining traces of metals, suitable for established and intending users.

ERNST, R. *and* VON MORGENSTERN, I. E. 229
Dictionary of chemistry; vol. 1, German–English. *Pitman*, 1961 [i.e. Jan 62]. 727p. 52*s* 6*d*.
D Almost 45,000 chemical, physical, engineering, and agricultural terms are given with numerous synonyms in both languages. Defined terms are not singled out. Alternative spellings given as far as possible.

HAWES, B. W. V. *and* DAVIES, N. H. 230
Calculations in physical chemistry. EUP, 1962. xiv,206p, tables. 21*s*. *Chemical science texts.*
B 300 numerical questions from examination papers of HNC and graduate membership of Royal Institute of Chemistry standard, and from original papers, cover whole subject. Procedures explained and answers given.

HUDLICKY, M. 231
Chemistry of organic fluorine compounds, [tr. from the Czech]. Oxford, NY [etc], Pergamon P, 1961. 536p, tables, diagrs, bibliog. 60*s*; $15.
C Comprehensive survey of literature, including over 1,100 references to 1959. Brief preparative instructions and tables of properties, and formula, author, and subject indexes.

JAMES, A. M. 232
Practical physical chemistry. Churchill, 1961. xiv,339p, plates, tables, diagrs, bibliog. 45*s*.
B Well-presented text based on courses at Chelsea College of Science and Technology takes subject to honours degree level. Experimental and mathematical apparatus discussed in adequate detail, taking account of modern developments.

TUROVTSEVA, Z. M. *and* KUNIN, L. L. 233
Analysis of gases in metals, tr. from the Russian by J. Thompson. NY, Consultants Bureau, [1961]. ix,374p, tables, diagrs, bibliog. $21.50.
C Contains many useful tables of physical and thermodynamical properties, covering wide range of gases and metals. Reports more Russian than western literature.

WELLS, A. F. 234
Structural inorganic chemistry. 3rd ed. Oxford, Clarendon P, 1962. xxvi,1055p, plates, tables, diagrs, bibliog. 4 *gns*.
B Considerably expanded edition of widely used textbook on methods of determining chemical structure and on structures of the more important classes of inorganic compounds.

55 Geology. Meteorology.

BORNER, R. 235
Minerals, rocks, and gemstones, tr. [from the German] and ed. by W. Mykura. Edinburgh, London, O & B, 1962. xi,250p, plates, tables, diagrs, bibliog. 25*s*.
A Guide with keys for identification of the three 'groups', illustrated by colour plates.

GORDON, A. H. 236
Elements of dynamic meteorology. EUP, 1962. xxi,217p, tables, diagrs. 25*s*. *Physical science texts*.
B–C Covers essential groundwork of theoretical meteorology, leading to final chapter on basic theory of numerical prediction methods.

KING, L. C. 237
Morphology of the earth: a study and synthesis of world scenery. Edinburgh, London, O & B, 1962. xii,699p, plates, tables, diagrs, bibliog. 4 *gns*.
C Controversial work presenting new approach to evolution of earth's scenery, interpreted in terms of cyclic denudations traced from Mesozoic to recent times.

LANDSBERG, H. E. *and* VAN MIEGHEM, J. *eds* 238
Advances in geophysics; vol. 8. NY, London, Academic P, 1961. x,392p, illus, tables, diagrs, bibliogs. $13; 93*s*.
C Valuable accounts, with many useful references, of recent research in solar activity, ionization in space, meteorology, paleomagnetism, and production of storm surges.

PYDDOKE, E. 239
Stratification for the archaeologist. Phoenix House, 1961. 124p, illus, plates, diagrs. 30*s*.
A Latest of series of 'aids for the archaeologist' from this publisher.

WILSON, J. T. 240
IGY: the year of the new moons; foreword by L. V. Berkner. Michael Joseph, 1961 [i.e. Jan 62]. 352p, plates, tables, diagrs, bibliog. 30*s*.
A Broad, completely reliable account of all International Geophysical Year activities.

57 Anthropological and Biological Sciences

BAILEY, N. T. J. 241
Introduction to the mathematical theory of genetic linkage. Oxford, Clarendon P, 1961. x,298p, tables, diagrs, bibliog. 55*s*.
C Lucid explanation of statistical theory of genetical recombination and its application to experimental data.

TAYLOR, W. T. *and* WEBER, R. J. 242
General biology, ill. by W. Riley. Princeton (NJ), London [etc], Van Nostrand, [1961]. x,945p, illus, plate, tables, diagrs, bibliog. 66*s*.
B Comprehensive, well-arranged book with three-dimensional diagrams and tables summarizing biochemical processes; for sixth-formers, first-year undergraduates, etc.

577.1 *Biochemistry*

GRANT, J. K. *ed.* 243
Structure and biosynthesis of macromolecules: Biochemical Society Symposium no. 21 held at Senate House, University of London, on 27 and 28 March 1961 to commemorate the fiftieth anniversary of the Biochemical Society, organized by J. K. Grant, ed. by D. J. Bell and J. K. Grant. Cambridge, CUP, 1962. [4],132p, plates, tables, diagrs, bibliogs. 30*s*. *Biochemical Society symposia.*
B Concise, up-to-date accounts dealing with structure and biosynthesis of polynucleotides, polysaccharides, proteins, and enzymes. No index.

MERCER, E. H. 244
Keratin and keratinization: an essay in molecular biology. Oxford, NY [etc], Pergamon P, 1961. xiv,316p, plates, tables, diagrs, refs. 70*s*; $12. *International series of monographs on pure and applied biology. Division: modern trends in physiological sciences, vol. 12.*
C Synthesis of modern knowledge of structure and function of vertebrate epidermis and its products in terms of the molecules which constitute it and their patterns of distribution and behaviour.

ROSS, W. C. J. 245
Biological alkylating agents: fundamental chemistry and the design of compounds for selective toxicity. Butterworths, 1962. xi,232p, tables, diagrs, bibliog. 55*s*. *Cancer monograph series.*
C Authoritative text dealing with chemistry and biochemistry of biologically active alkylating agents, and with design of possible anti-cancer compounds. Fully documented.

STACEY, M. *and* BARKER, S. A. 246
Carbohydrates of living tissues. London, Princeton (NJ) [etc], Van Nostrand, [1962]. xvii,215p, tables, bibliogs. 45*s*.
C Authoritative and stimulating account of chemistry, biochemistry, and biochemical function of carbohydrates, especially the complex polysaccharides of normal and diseased animal tissue. Well documented.

6 APPLIED SCIENCES

62 Engineering and Technology

CHORLTON, F. 247
Mechanics of materials for engineers. EUP, 1962. xiii,15–158p, tables, diagrs. 16*s*. *Higher technical series.*
B–C Mathematical treatment intended to bridge gap between standard engineering works on strength of materials and advanced treatises of theory of elasticity and plasticity.

621 *Mechanical and Electrical Engineering*

CHAMPEIX, R. 248
Physics and techniques of electron tubes, [tr. from the French], with a foreword by G. A. Boutry; vol. 1, principles of vacuum technique. Oxford, NY [etc], Pergamon P, 1961. XII,221p, illus, tables, diagrs, bibliog. 60*s*; $10.
A Simplified account of vacuum physics and high vacuum technology used in electronic tube industry for those commencing courses in the subject.

DOWNES, K. J. 249
Copy turning. Brighton, Machinery; NY, Industrial P, [1962]. 150p, illus, diagrs. 20*s*. *Machinery's standard reference series.*
B Deals comprehensively with classification and modern methods of copy turning.

HUME, K. J. *and* SHARP, G. H. 250
Practical metrology; vol. 4. Macdonald, 1962. vii,9–61p, illus, tables, diagrs, bibliog. 7*s* 6*d*.
B Final volume describes experiments in measuring length and angles to highest degree of accuracy: to one micro-inch and one second of arc. For student and workshop metrologists.

SHELL INTERNATIONAL PETROLEUM COMPANY 251
Internal combustion engine: a glossary of technical terms in English/American, French, Dutch, German, Spanish, Italian, Portuguese, Russian. Amsterdam, London [etc], Elsevier, 1961. [6],278p. 40*s*. *Glossaria interpretum.*
D Arranged alphabetically by English words, with indexes for other languages.

621.039 *NUCLEAR ENGINEERING*

252
PROGRESS in nuclear energy; series 4, technology, engineering and safety, ed. by C. M. Nicholls; vol. 4. Oxford, NY [etc], Pergamon P, 1961. viii,523p, plates, tables, diagrs, bibliogs. 140*s*; $20.
C Reviews under headings engineering, reactor, materials, process, and general technology, criticality and safety, reactor safety.

253
PROGRESS in nuclear energy; series 9, analytical chemistry, ed. by C. E. Crouthamel; vol. 2. Oxford, NY [etc], Pergamon P, 1961. vii,400p, plates, tables, diagrs, bibliogs. 100*s*; $15.
C Topics of continuing importance or dealing with innovations or discoveries.

THIE, J. A. 254
Heavy water exponential experiments using ThO_2 and UO_2. Oxford, NY [etc], Pergamon P, 1961. [9],170p, plates, tables, diagrs, bibliogs. 40*s*; $6. *International series of monographs on nuclear energy. Division 10: reactor design physics, vol. 5.*
C For experimental nuclear physicists, reactor theorists, and reactor core designers, and as reference source for courses which include exponential experiments or reactor theory.

621.3 *Electrical Engineering*

CHARD, F. DE LA C. 255
Power system engineering: an introduction. Cleaver-Hume P, 1962. xi,288p, tables, diagrs, bibliogs. 50*s*.
B Covers electrical transmission and characteristics and behaviour of plant and other equipment concerned. For students and supply engineers who must make their own calculations.

CONFERENCE ON RELIABILITY OF SEMICONDUCTOR DEVICES 256
Semiconductor reliability, based on the conference . . ., 1961, sponsored by the Working Group on Semiconductor Devices, Advisory Group on Electron

Tubes, Department of Defense, ed. by J. E. Shwop and H. J. Sullivan. Elizabeth (NJ), Engineering Publishers; NY, Reinhold; London, C & H, [1962]. ix,309p, illus, tables, diagrs, bibliogs. $8.50; 68*s*.

C Study drawn from laboratories of major manufacturers and users. Results are based on large test samples and long test periods.

DUNSHEATH, P. 257

History of electrical engineering. Faber, 1962. 368p, illus, plates, tables, diagrs, bibliogs. 50*s*. *Technology today and tomorrow.*

A Readable account from first recorded encounters with magnetism to present-day technology. Without being exhaustive includes power, traction, and communication, chronological table, and professional organizations.

258

ELECTROMAGNETIC waves: proceedings of a symposium conducted by the Mathematics Research Center, United States Army, at the University of Wisconsin, Madison, April 10–12, 1961, ed. by R. E. Langer. Madison, Wisconsin UP; 1962. xii,396p, diagrs, bibliogs. $6. *Mathematics Research Center, United States Army, the University of Wisconsin, publication no. 6.*

C Selected topics, for specialists, on recent developments in mathematical theories of propagation, scattering, diffraction, and dipole behaviour in various media.

GOODLET, B. L. 259

Basic electrotechnics. 3rd ed. Edward Arnold, 1962. viii,400p, diagrs, bibliog. 35*s*.

B Excellent textbook covering advanced electrical engineering syllabus for university or IEE examinations. Previous edition 1955.

GOUBAU, G. 260

Electromagnetic waveguides and cavities, by G. Goubau in collaboration with R. Honerjäger and R. Müller, [tr. from the German]. Oxford, NY [etc], Pergamon P, 1961. xvii,656p, tables, diagrs. 100*s*; $13.50. *Physics and technology, vol. 5.*

C Translation from 1955 mathematical approach to theory, based on work done in Jena about 1944 but not previously published. Typewriter script.

LETOV, A. M. 261

Stability in nonlinear control systems, tr. from the Russian by J. G. Adashko. Princeton (NJ), Princeton UP, 1961; [London, OUP, 1962]. [xii],316p, diagrs. $8.50; 68*s*.

B Mathematical study of theory of automatic control systems with one and with two regulators, based on A. M. Lyapunov's direct method of analysis. For students specializing in automation or applied mechanics.

POTTER, W. J. 262

Solution of problems in electrical machines. Pitman, 1961 [i.e. Jan 62]. x,214p, tables, diagrs. 25*s*.

B Detailed solutions of selected problems on motors, generators, transformers, and mercury-arc rectifiers.

624 *Structural Engineering*

BORN, J. 263

Hipped-plate (folded-plate) structures: their theory and analysis, tr. [from the German] by C. V. Amerongen. Crosby Lockwood, [1962]. ix,250p, tables, diagrs, bibliog. 3 *gns*.

C Survey, for advanced students and practising structural engineers, of theory and design; theory illustrated by wide range of design examples.

CHARLTON, T. M. 264
Analysis of statically-indeterminate frameworks. Longmans, 1961. viii,158p, tables, diagrs, bibliog. 30*s*.

B New approach for students. Assumes understanding of statics and analysis of statically determinate frameworks but no knowledge of subject treated.

GOL'DENVEIZER, A. L. 265
Theory of elastic thin shells; tr. from the Russian ed. by G. Herrmann. Oxford, NY [etc], Pergamon P for the American Society of Mechanical Engineers, 1961. xxi,658p, tables, diagrs. 5 *gns*; $15. *International series of monographs in aeronautics and astronautics. Division 1: solid and structural mechanics, vol. 2.*

C Comprehensive treatment of theory and approximate solution of problems; invaluable for advanced and research students. Typewriter script.

NAYAGAM, K. P. S. 266
Theoretical problems for structural designers. Batsford, 1962. [5],206p, tables, diagrs. 35*s*.

B Worked examples covering wide range of problems in structures and soil mechanics, for students preparing for structural, civil engineering, and architectural examinations.

629.1 *Transport Engineering* 267

FLIGHT test instrumentation: proceedings of the first international symposium, 1960, sponsored by the Department of Flight, College of Aeronautics, Cranfield, ed. by M. A. Perry. Oxford, NY [etc], Pergamon P, 1961. x,153p, illus, tables, diagrs. 50*s*; $8.50. *International series of monographs in aeronautics and astronautics. Division 9: symposia, vol. 9.*

B Fifteen papers on transducers, instrumentation systems, amd techniques associated with aircraft performance testing, including use of magnetic tape and data reduction.

GUNSTON, W. T. *ed.* 268
Flight handbook: the theory and practice of powered flight. 6th ed. London, Iliffe for *Flight;* Los Angeles, Aero Publishers, [1962]. [vi],331p, illus, diagrs. 35*s*.

A For laymen interested in modern aircraft design and operation; essential engineering principles involved are well presented without mathematics.

ROCKET PROPULSION SYMPOSIUM 269
Rocket propulsion technology; vol. 1, proceedings of the first . . . symposium, Cranfield, 1961, jointly organized by the British Interplanetary Society, the Royal Aeronautical Society, the College of Aeronautics, ed. by D. S. Carton, W. R. Maxwell, and D. Hurdon. NY, Plenum P, [1961]. x,374p, illus, tables, diagrs. $12.50.

C Seventeen papers and several discussions on British research and development on chemical rocket engines, with emphasis on problems of controllability and reliability.

629.19 *ASTRONAUTICS*

AFOSR ASTRONAUTIC SYMPOSIUM 270
Vistas in astronautics; vol. 3, proceedings of the third . . . symposium jointly sponsored by the Air Force Office of Scientific Research and the Society of Automotive Engineers Inc., October, 1960, ed. by E. R. van Driest and others. NY, the Society; [Oxford, Paris, etc], Pergamon P, [1961]. vi,266p, illus, tables, diagrs, bibliogs. $8; 55*s*.

C Twenty-seven papers concerning vehicle utilization, propulsion (including magnetohydrodynamic power generation), bioastronautics, guidance and communications, planetary and space environments.

271
ADVANCES in the astronautical sciences; vol. 7, proceedings of the third annual west coast meeting of the American Astronautical Society, Seattle, Washington, August 4–5, 1960. NY, Plenum P, [1961]. x,454p, illus, tables, diagrs, bibliogs. $17.50. *American Astronautical Society publications.*

C Emphasizes those areas of space technology in which significant advances are expected.

SEIFERT, H. S. *and* BROWN, K. 272
Ballistic missile and space vehicle systems. NY, London, Wiley, [1961]. xii, 526p, illus, tables, diagrs, bibliogs. $12; 96*s*. *University of California engineering and physical science extension series.*

B Describes fundamental principles of system design practice with particular reference to problems arising from interrelationships of different parts of the system.

SEMINAR ON ASTRONAUTICS 273
Current research in astronautical sciences: proceedings of the Rome seminar on astronautics sponsored by Agard-Nato, ed. by L. Broglio. Oxford, NY [etc], Pergamon P, 1961. xxi,535p, illus, tables, diagrs, bibliogs. 4 *gns*; $12.50 *International series of monographs in aeronautics and astronautics. Division 9: symposia, vol. 6.*

C Eighteen papers in English, French, and Italian on solar activity, satellite orbit determination, upper atmosphere, guidance, hypersonic aerodynamics, materials, re-entry, propulsion, and space law. Typewriter script.

66 Chemical Technology

CLARK, D. S. *and* VARNEY, W. R. 274
Physical metallurgy for engineers. 2nd ed. Princeton (NJ), London [etc], Van Nostrand, 1962. xv,629p, illus, tables, diagrs, bibliogs. 73*s* 6*d*.

B Revised textbook dealing with elementary basic principles for student engineers.

COX, H. E. 275
Chemical analysis of foods, originally written by H. E. Cox. 5th ed. by D. Pearson. Churchill, 1962 [i.e. Dec 61]. xii,464p, tables, diagrs. 50*s*.

B Three new chapters on food legislation in England and Wales, general methods of analysis, and trace elements, preservatives, colourings, etc.

KUBASCHEWSKI, O. *and* HOPKINS, B.E. 276
Oxidation of metals and alloys. 2nd ed. London, Butterworths; NY, Academic P, 1962. xii,319p, plates, tables, diagrs, bibliog. 65*s*.

C Revised to take account of vast amount of work done in ten years since first edition.

277
PROGRESS in materials science: incorporating *Progress in metal physics*; vol. 9, ed. by B. Chalmers. Oxford, NY [etc], Pergamon P, 1961. vii,389p, plates, tables, diagrs, bibliogs. 120*s*; $20.

C Excellent up-to-date reviews on nuclear magnetic resonance in metals, effect of temperature and alloying additions on the deformation of metal crystals, effects of environment on mechanical properties of metals, hydrogen embrittlement of metals, and structure and properties of solid solutions. Available separately in paper covers.

QUARRELL, A. G. *ed.* 278
Niobium, tantalum, molybdenum and tungsten: report of a conference held in the University of Sheffield 20th–22nd September, 1960 and organized by the Department of Metallurgy. Amsterdam, London [etc], Elsevier, 1961. [viii], 413p, illus, tables, diagrs, bibliogs. 80*s*.

C Manufacture, alloy development, oxidation, and mechanical properties of refractory metals; for technologists concerned with high temperature applications.

SMALLMAN, R. E. 279
Modern physical metallurgy. Butterworths, 1962. xii,387p, illus, tables, diagrs, bibliogs. 50*s*.

B Subject as treated in terms of atomic processes rather than by presentation of factual data. Based on recently published research work on application of theories of lattice defects to metallurgical processes. Undergraduates will find the integrated picture useful, but research workers should look elsewhere for more critical material.

SYMPOSIUM AND WORKSHOP ON INSTRUMENTAL METHODS FOR THE ANALYSIS OF FOOD ADDITIVES 280
Instrumental methods for the analysis of food additives: proceedings of the symposium and workshop held at Michigan State University, Kellogg Center for Continuing Education, East Lansing, Michigan, March 24–26, 1960, ed. by W. H. Butz, H. J. Noebels. NY, London, Interscience, 1961. viii,288p, illus, tables, diagrs, bibliog. $11; 83*s*.

B Includes material not presented at the conference, for practising residue chemists.

WENTORF, R. H. *ed.* 281
Modern very high pressure techniques. Butterworths, 1962. xiv,233p, illus, tables, diagrs, bibliogs. 60*s*.

C Chapters by experts on pioneering experimental work at pressures up to 100,000 atm.

67/68 Manufactures

282
ADVANCES in textile processing, ed. by J. E. Lynn and J. J. Press; vol. 1. NY, Textile Book Publishers; London, Interscience, 1961. xii,379p, illus, tables, diagrs, bibliog. $14; 5 *gns*.

B–C Critical reviews on non-woven fabrics, resin finishing, wash-and-wear fabrics, wool textile processing, felting, dyeing, and water, oil, and grease repellancy. Quality varies.

CERESA, R. J. 283
Block and graft copolymers. Butterworths, 1962. xvi,196p, plates, tables, diagrs, bibliogs. 2 *gns*.

C Comprehensive survey of techniques that have been used for synthesis of these copolymers. For research workers.

LENNOX-KERR, P. 284
Index to man-made fibres of the world. Manchester, Harlequin P, [1961]. viii, 117p. 21*s*.

D Fibres (and yarns) listed alphabetically, with information about generic type, form, and producers.

MORGAN, P. *ed.* 285
Glass reinforced plastics. 3rd ed. London, Iliffe for *British Plastics*; NY, Interscience, [1961]. xvi,340p, plates, tables, diagrs, refs. 50*s*.

C Covers all aspects of chemistry, manufacture, fabrication, and use. Previous edition 1957.

MORGAN, P. *ed.* 286
Plastics progress 1961: papers and discussions at the international plastics convention, Interplas 1961, London. London, Iliffe for *British Plastics*; NY, Macmillan (NY), 1962. xi,181p, illus, tables, diagrs. 65*s*.

C Emphasis on recent advances in technology and application of thermoplastics: polyolefines, vinyls, and polystyrenes.

ONIONS, W. J. 287
Wool: an introduction to its properties, varieties, uses and production. Benn, 1962. xvi,278p, illus, tables, diagrs, bibliog. 55*s*.

B Collects technical facts and research results. Emphasis on origins, structure, and chemistry.

Publishers

THE FOLLOWING ABBREVIATIONS ARE USED IN ASLIB BOOK LIST

A & U	Allen & Unwin
B & S	Bailey & Swinfen
C & H	Chapman and Hall
CUP	Cambridge University Press
EUP	English University Press
HMSO	Her Majesty's Stationery Office
McG-H	McGraw-Hill
O & B	Oliver and Boyd
OUP	Oxford University Press
R & KP	Routledge & Kegan Paul
T & H	Thames & Hudson
ULP	University of London Press

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007 INFORMATION. COMMUNICATION. CONTROL THEORY

BELL, D. A. 288
Intelligent machines: an introduction to cybernetics. Pitman, 1962. vi,98p, table, diagrs. 12*s* 6*d*.

A Presents elements of theory and applications of cybernetics in science and industry.

BRILLOUIN, L. 289
Science and information theory. 2nd ed. NY, [London], Academic P, 1962. xvii,351p, tables, diagrs. $9; 72*s*.

C Two new chapters on author's recent research.

5 MATHEMATICAL AND NATURAL SCIENCES

51 Mathematics

APOSTOL, T. M. 290
Calculus. NY, Blaisdell, 1961. 515p, illus. $8.50. *Blaisdell mathematics series.*

B Unusually clear and thorough introduction.

CROWDER, N. A. 291
Arithmetic of computers: an introduction to binary and octal mathematics, consultant ed. R. Goodman. EUP, [1962]. viii,472p, tables. 25*s*. *Tutortexts.*

A First volume in British edition of series. Tutortexts or 'scrambled books' employ a multiple-choice or 'branching' arrangement.

KENDALL, M. G. 292
Course in the geometry of *n* dimensions. Griffin, 1961. viii,63p, bibliog. 16*s*. *Griffin's statistical monographs and courses, no. 8.*

C Long-needed demonstration of usefulness of difficult subject in field of statistical methods.

SHILOV, G. E. 293
Introduction to the theory of linear spaces, tr. from the Russian by R. A. Silverman. Prentice-Hall, 1961. ix,310p, diagrs, bibliog. 50*s*.

B Unified study of linear algebra, geometry, and functional analysis of finite-dimension spaces, for students and research workers in mathematics, physics, and engineering. Examples and problems with answers.

STEPHENSON, G. 294
Mathematical methods for science students. Longmans, 1961. viii,494p, diagrs. 45*s*.

B Pure mathematics text to degree standard for students of physics, chemistry, and engineering. Worked examples and problems with answers.

53 Physics and Mechanics

HERSHENSON, H. M. 295
Ultraviolet and visible absorption spectra: index for 1955–1959. NY, London, Academic P, 1961. xv,133p. $8; 64*s*.

D Some 16,000 references to location of spectra, with indication of spectral region. Original index covered 1930–54.

ISETZ, F. *and* TURNBULL, D. *eds* 296
Solid state physics: advances in research and applications; vol. 12. NY, London, Academic P, 1961. xvi,459p, illus, tables, diagrs, bibliog. $16; 114*s* 6*d*.

C Specialist reviews of modern developments in application of group theory to symmetry-dependent aspects of crystal field theory, organic semiconductors, hydrothermal crystal growth practice, low temperature thermal conductivity of metals, etc.

SYMPOSIUM ON THERMOPHYSICAL PROPERTIES 297
Progress in international research on thermodynamic and transport properties: papers presented at second symposium . . ., sponsored by Standing Committee on Thermophysical properties [of the] Heat Transfer Division, American Society of Mechanical Engineers, ed. by J. F. Masi and D. H. Tsai. NY, American Society of Mechanical Engineers/Academic P; London, Academic P, [1962]. [9],762p, illus, tables, diagrs, bibliog. $24; 171*s* 6*d*.

C Experimental, theoretical, and review papers, containing much valuable material, covering field from highest to lowest temperatures. Unfortunately expensive. Typewriter script.

539.1 *Nuclear Physics*

EUROPEAN NUCLEAR ENERGY AGENCY 298
Nuclear graphite. Paris, the Agency, 1961. 269p. 27*s* 6*d*.

C Papers presented at the OEEC Dragon project symposium in Bournemouth, 1959.

LOCKHEED SYMPOSIUM ON MAGNETOHYDRODYNAMICS 299
Radiation and waves in plasmas: fifth Lockheed symposium . . ., ed. by M. Mitchner. Stanford (Cal), Stanford UP, 1961; [London, OUP, 1962]. viii,156p, illus, diagrs, bibliog. $4.50; 36*s*.

C Seven papers, most of them theoretical, on plasma dynamics and radiation phenomena.

SYMPOSIUM ON INELASTIC SCATTERING OF NEUTRONS IN SOLIDS AND LIQUIDS 300
Inelastic scattering of neutrons in solids and liquids: proceedings of the symposium . . . sponsored by the International Atomic Energy Agency and held in Vienna, Oct. 11–14, 1960. Vienna, the Agency; [London, HMSO], 1962. 658p, illus. 72*s*.

C A few papers in French or Russian.

VAN NAME, F. W. 301
Modern physics. 2nd ed. Prentice-Hall, 1962. x,319p, illus, tables, diagrs, bibliog. 50*s*.

B Introductory text, with new matter, on atomic, nuclear, and electron physics, including sub-nuclear particles, relativity, quantum mechanics, radiation, nuclear fission, and cosmic rays.

YANG, C. N. 302
Elementary particles: a short history of some discoveries in atomic physics; the Vanuxem lectures 1959. Princeton (NJ), Princeton UP, 1961; [London, OUP, 1962]. [9],68p, illus, tables, diagrs. $2.75; 22*s*.

A Authoritative account from beginning of subject seventy years ago, by recent Nobel Prize winner; needs a little knowledge of science but no mathematics.

57 Anthropological and Biological Sciences

AUERBACH, C. 303
Science of genetics, ill. by I. G. A. Linker. NY, Harper, 1961; [London, Hutchinson, 1962]. x,273p, illus, diagrs, bibliog. $5.95; 21*s*.

B Of value particularly to biologists for whom genetics is a 'fringe' subject.

304
INITIAL effects of ionizing radiations on cells: a symposium held in Moscow, October, 1960, supported by Unesco and the IAEA and sponsored by the Academy of Sciences of the USSR, ed. by R. J. C. Harris. London, NY, Academic P, 1961 [i.e. Jan 62]. xii,367p, illus, plate, tables, diagrs, bibliog. 75*s*; $12.

B–C Wide range of research reports of interest to radiobiologists, biochemists, and cytologists.

SAGER, R. *and* RYAN, F. J. 305
Cell heredity: an analysis of the mechanisms of heredity at the cellular level. NY, London, Wiley, 1961. xi,411p, plates, tables, diagrs, bibliog. $7.50; 60*s*.

C Clear and accurate account of present problems of genes and cellular processes, with attempted 'logical pattern' of presentation.

STURTEVANT, A. H. 306
Genetics and evolution: selected papers of A. H. Sturtevant, selected and ed. by E. B. Lewis, with a foreword by G. W. Beadle. San Francisco, London, Freeman, [1962]. x,334p, tables, diagrs, bibliog. $7.50; 54*s*.

B Thirty-three outstanding original papers from 1913 to 1956. Mainly research on drosophila, especially chromosome mapping and recombination.

58 Botany

CHAPMAN, V. J. 307
The algae. London, Macmillan; NY, St Martin's P, 1962. viii,472p, illus, plate, tables, diagrs. 35*s*; $8.

B General survey for university students, with marked passages suitable for sixth-formers.

LANJOUW, J. *and others, eds* 308
International code of botanical nomenclature, adopted by the 9th international botanical congress, Montreal, August, 1959. Utrecht, International Bureau for Plant Taxonomy and Nomenclature of the International Association for Plant Taxonomy, 1961 [i.e. Jan 62]. 372p. 35*s*. *Regnum vegetabile.*

D List of conserved names of families (15 p) and of conserved generic names (123 p). Full index.

59 Zoology

ALLEN, R. P. 309
Birds of the Caribbean. T & H, 1962. 256p, illus, bibliog. 3 *gns*.

A Many fine colour plates.

ARTHUR, D. R. 310
Ticks and disease. Oxford, London, Pergamon P, 1962. xvi,445p, illus, plates, tables, diagrs, bibliog. 90*s*. *International series of monographs on pure and applied biology. Division: zoology, vol. 9.*

B Survey of current knowledge.

CLOUDESLEY-THOMPSON, J. L. 311
Rhythmic activity in animal physiology and behaviour. NY, London, Academic P, 1961. vii,236p, plate, diagrs, bibliog. $6.80; 54*s*. *Theoretical and experimental biology: an international series of monographs, vol. 1.*

B Summary of present state of knowledge on animal rhythms and methods of investigation used.

EVANS, G. O. *and others* 312
Terrestrial acari of the British Isles: an introduction to their morphology, biology and classification, by G. O. Evans, J. G. Sheals, and D. MacFarlane; vol. 1, introduction and biology. British Museum (Natural History), 1961. [7], 219p, illus, plate, tables, diagrs, bibliog. 40*s*.

B First of five proposed volumes.

KENDEIGH, S. C. 313
Animal ecology. Prentice-Hall, 1961. x,468p, illus, tables, diagrs, bibliog. 70*s*.

B–C Reviews all aspects for more advanced university students; comprehensive bibliography and subject index.

KEVAN, D. K. M. 314
Soil animals, with a foreword by E. J. Russell. H. F. & G. Witherby, 1962. xv,237p, illus, plates, tables, diagrs, bibliog. 30*s*.

B By expert on both soil and zoology aspects. Enormous range of animals examined.

MANN, K. H. 315
Leeches (hirudinea): their structure, physiology, ecology and embryology, with an appendix on the systematics of marine leeches by E. W. Knight-Jones. Oxford, NY [etc], Pergamon P, 1962. x,201p, illus, plates, tables, diagrs, bibliog. 45*s*; $7.50. *International series of monographs on pure and applied biology. Division: zoology, vol. 11.*

B Describes typical species in some detail, with subsequent physiological observations on group as a whole which should be of value to students of zoology.

PETERSON, R. T. 316
Field guide to western birds: field marks of all species found in North America west of the 100th meridian, with a section on the birds of the Hawaiian islands, sponsored by the National Audubon Society and National Wildlife Federation. 2nd ed. Boston, Houghton, 1961. xxv,366p. $4.95.

D Completely rewritten and much enlarged.

THORNE, G. 317
Principles of nematology. NY, London [etc], McG-H, 1961. xiv,553p, illus, plate, tables, bibliog. $15; 116*s* 6*d*. *McGraw-Hill publications in the agricultural sciences.*

C Mainly devoted to detailed descriptions, life histories, distribution, and methods of control of plant-parasitic nematodes and of many associated free-living species.

6 APPLIED SCIENCES

62 Engineering and Technology

621.3 *Electrical Engineering*

BUDDEN, K. G. 318
Wave-guide mode theory of wave propagation. Logos P [distributed by] Academic P, [1961]. x,325p, diagrs, bibliog. 70*s*.

C Demonstrates by mathematical development similarity between earth and ionosphere as wave-guide for radio, and bottom and surface for underwater sound.

FISCHBACHER, R. E. *ed.* 319
Measurement and detection with electrical transducers; based on a series of articles in *Control.* Rowse Muir Publications, [1961]. 53p, illus, tables, diagrs, bibliog. 10*s*. *Control monograph 1.*

C Authoritative account of certain electrical methods for measuring rotational speed, strain, pH value, temperature, chemical composition, light and nuclear radiation intensity.

INTERNATIONAL ELECTRONIC CIRCUIT PACKAGING SYMPOSIUM 320
Advances in electronic circuit packaging; vol. 2, proceedings of the second . . . symposium, sponsored by the University of Colorado and EDN (Electrical Design News), held at Boulder, Colorado, ed. by G. A. Walker. NY, Plenum P, [1962]. xiv,328p, illus, tables, diagrs, bibliog. $12.50.

C Latest methods described in practical manner, with emphasis on present possibilities rather than exotic future systems.

KOMOLIBUS, E. 321
DC/AC converters for DC amplifiers. Chislehurst, British Scientific Instrument Research Association, 1961. [6],49,xxii,[34]p, tables, diagrs, bibliog. 3 *gns*.

B Survey of thirty-nine low-level converters, covering electromechanical, solid-state, magnetic, and valve types. Tables of characteristics for comparison.

PESKIN, E. 322
Transient and steady-state analysis of electric networks. Princeton (NJ), London [etc], Van Nostrand, 1961. xiv,423p, tables, diagrs, bibliog. $13; 79*s*.

C Unified approach employing Laplace transform matrices and signal flow graphs. For power and communications electrical engineers.

PETERS, J. M. 323
Elements of electronic circuits: building bricks for circuit design. London, Iliffe for *Wireless World*; NY, Wiley, 1962. vi,98p, diagrs, bibliog. 21*s*.

A Emphasis on understanding operation, not on design. Good line drawings. Coverage does not extend beyond second world war.

623 *Military and Naval Engineering*

CLEMOW, J. 324
Short-range guided weapons. Temple P, 1961. [6],79p, tables, diagrs, bibliog. 15*s*. *Temple Press monographs on rockets and missiles.*

B Outlines principles of design of tactical guided weapons, illustrating integration of techniques such as aerodynamics, explosives, and electronics.

63 Agriculture. Forestry. Livestock. Fisheries

CASWELL, G. H. 325
Agricultural entomology in the tropics. Edward Arnold, 1962. 152p, bibliog. 21*s*.

B General survey of important insect pests of stock, crops, and stored products, for students and practical agriculturalists and entomologists.

COFFMAN, F. A. *ed.* 326
Oats and oat improvement. Madison (Wis), American Society of Agronomy, 1961. 650p, illus, tables, bibliog. $11; $11.50 abroad. *Agronomy: a series of monographs, vol. 8.*

C Chapters on origin, history, morphological development, taxonomy, and cytogenetics of oats; disease resistance, breeding techniques, climatic effects, methods of cultivation, pests and diseases, industrial utilization, and seed production.

ESAU, K. 327
Plants, viruses, and insects. Cambridge (Mass), Harvard UP, 1961; London, OUP, [1962]. viii,110p, illus, tables, bibliog. $3.75; 30*s*.

B Examines complex relations between viruses, the plant tissues they infect, and insects which place them in those tissues to which they are best adapted.

FRASER, A. K. *and* LUGG, G. W. 328
Work study in agriculture; foreword by Lord Netherthorpe. Land Books, 1962. xvi,16–248p, plates, tables, diagrs. 3 *gns*.

A–B Deals comprehensively with techniques of method study and work measurement and demonstrates use of planning and reference data in developing farming methods and building layouts. Includes syllabus for agricultural work study training.

329
FUNGICIDES in agriculture and horticulture: comprising papers (with discussions) read at a symposium organised by the Pesticides Group held at the London School of Hygiene and Tropical Medicine, March 20–21, 1961. Society of Chemical Industry, 1961. iv,145p, illus, tables, diagrs. 30*s*. *SCI monograph no. 15*.

C Eleven papers by contributors from research institutes etc. in England and Netherlands, and from the chemical industry.

HAARER, A. E. 330
Modern coffee production. 2nd ed. Leonard Hill, 1962. xvi,495p, illus, plates, tables, diagrs, bibliog. 70*s*.

B Comprehensive account of technical and economic aspects by agriculturalist with considerable practical experience. First edition 1956; chapter on diseases extended and that on pests revised, tables brought up to date.

HYDE, H. A. 331
Welsh timber trees: native and introduced. 3rd ed. Cardiff, National Museum of Wales, 1961. xi,173p, illus, plates, tables, diagrs, bibliog. 18*s*.

A Previous edition 1935, largely rewritten. Comprehensive descriptions of tree species suitable for cropping or for ornamental purposes in Wales.

KONONOVA, M. M. 332
Soil organic matter: its nature, its role in soil formation and its soil fertility, tr. from the Russian by T. Z. Nowakowski and G. A. Greenwood. Oxford, London, Pergamon P, 1961 [i.e. Feb 62]. 450p, illus, tables, diagrs, bibliog. 80*s*.

C Russian edition published 1951. Revised by author and brought up to 1960.

POLHAMUS, L. G. 333
Rubber: botany, production, and utilization. London, Leonard Hill, NY, Interscience, 1962. xvii,449p, plates, tables, diagrs, bibliog. 80s; $12. *World crops books*.

C Describes commercial possibilities of *Hevea, Guayule, Kok-Saghyz* Castilla, etc. and methods of cultivation, marketing, and utilization. Compares natural and synthetic rubbers and includes chapter on vulcanization. Author has studied rubber-bearing plants for thirty-five years for US Department of Agriculture.

SAMPFORD, M. R. 334
Introduction to sampling theory: with applications to agriculture. Edinburgh, London, O & B, 1962. xxiii,292p, tables. 30*s*.

B Non-mathematical account of sampling theory, making excellent introduction to more advanced treatises. Although directed towards agricultural situations the book has more general appeal.

TAYLOR, C. J. 335
Tropical forestry: with particular reference to West Africa. London, NY [etc], OUP, 1962. xv,163p, plates, tables, diagrs, bibliog. 21*s*.

B Practical handbook on value of tropical forests and their preservation and management in sound and profitable state.

UNIVERSITY OF NOTTINGHAM SCHOOL IN AGRICULTURAL SCIENCE 336
Nutrition of pigs and poultry: proceedings of the . . . eighth Easter school . . ., 1961, ed. by J. T. Morgan and D. Lewis. Butterworths, 1962. ix,366p, plates, tables, diagrs, bibliog. 70*s*.

C Papers of current interest on various scientific aspects, by international team of specialists.

WALLACE, T. 337
Diagnosis of mineral deficiencies in plants by visual symptoms: a colour atlas and guide. 3rd ed. HMSO, 1961 [i.e. Feb 62]. viii,132p, plates, tables, bibliog. 3 *gns*.

B Previous edition 1951. New illustrated appendix on use of *Aspergillus niger* for bioassay of certain metals in soils and plant materials. Text and bibliography revised.

WARDLOW, C. W. 338
Banana diseases, including plantains and abaca. Longmans, 1961 [i.e. Jan 62]. ix,648p, illus, plate, tables, diagrs, bibliog. 130*s*.

B Replaces author's *Diseases of the banana* (1935) as standard work. Appendixes on saprophytic, parasitic, and rhizosphere bacteria and fungi, nematode diseases, banana weevil-borer, and deterioration of manila hemp.

WILLS, J. B. *ed.* 339
Agriculture and land use in Ghana. OUP for Ghana Ministry of Food & Agriculture, 1962. xviii,504p, illus, plates, tables, diagrs, bibliog. 3 *gns*.

B Similar in conception to *Agriculture in Uganda* and *Agriculture in the Sudan* by J. D. Tothill. Should be standard reference for many years.

65 Business Techniques. Management

CARR, F. 340
Guide to screen process printing, ed. by B. Innes and B. Warde. Vista Books, 1961 [i.e. Feb 62]. 208p, illus, plates, tables, diagrs, bibliog. 25*s*. *Facts of print*.

B Comprehensive survey of modern practice. Mainly concerned with graphic arts and display, but textile printing and fine art print production also covered.

HOULDEN, B. T. *ed.* 341
Some techniques of operational research, prepared by the operational research group of the National Coal Board. EUP, 1962. x,154p, tables, diagrs, bibliog. 21*s*.

C Essentially English, as distinct from American, book on basic technical equipment for operational research. Can be used as training manual before specialized study.

66 Chemical Technology

HUME-ROTHERY, W. 342
Elements of structural metallurgy. Institute of Metals, 1961. viii,174p, plates, tables, diagrs, bibliog. 25*s*. *Institute of Metals monograph and report series, no. 26*.

B Well-written monograph aimed at level below that of university honours degree. Treatment brief in some topics, but adequate for the purpose.

IRON AND STEEL INSTITUTE 343
Steel for reactor pressure circuits: report of a symposium held in London on 30 November–2 December 1960 by the Iron and Steel Institute for the British Nuclear Energy Conference. The Institute, 1961 [i.e. Jan 62]. vi,587p, illus, tables, diagrs. 65*s*. *Iron and Steel Institute special reports, no. 69.*

C

344
PROGRESS in nuclear energy; series 5, metallurgy and fuels, ed. by H. M. Finniston and J. P. Howe. Oxford, NY [etc], Pergamon P, 1961. Illus, tables, diagrs, bibliog.

B–C Vol. 3, basic materials and phenomena. viii,476,ix-xx,xiip, 5 *gns*; $15. Vol. 4, metallurgy of nuclear reactor components. vii,477–910,ix–xx,xiip. 5 *gns*; $15.

VOLF, M. B. 345
Technical glasses, tr. [from the Czech] by S. E. Myhre and K. Fink. London, Pitman; [NY, Plenum P], 1961. 465p, plate, tables, diagrs, bibliog. *2 gns*; $10.

C Mentions over 850 technical glasses, with emphasis on those of Czech origin. Originally published Prague 1958.

67/68 Manufactures

681 *Precision Mechanisms*

GILBERT, H. D. 346
Miniaturization. NY, Reinhold; London, C & H, [1961]. ix,306p, illus, tables, diagrs, bibliog. $10; 80*s*.

B Describes design, manufacture, reliability, and maintenance of miniaturized devices in fields of military electronic and communications equipment, computers, and medicine.

TAUBE, M. 347
Computers and common sense: the myth of thinking machines. NY, London, Columbia UP, 1961 [i.e. Feb 62]. ix,136p, bibliog. $3.75; 30*s*.

B Covers probability of success in learning-machine and mechanical translation fields and discusses linguistic analysis and man–machine relations.

69 Building Industry

GREAT BRITAIN. Department of Scientific and Industrial Research. 348
Building Research Station
Principles of modern building; vol. 2, floors and roofs. HMSO, 1961. v,189p, plates, tables, diagrs. 17*s* 6*d*.

B Basic requirements of floors and flat, pitched, and shell roofs. Considers strength, stability, durability, sound and thermal insulation, fire protection, surface finishes, maintenance and repair, floor heating, and roof daylighting systems.

HAINES, J. E. 349
Automatic control of heating and air conditioning. 2nd ed. NY, London [etc], McG-H, 1961. vii,389p, illus, diagrs. $10.50; 81*s* 6*d*.

C Pneumatic, electric, and electronic control devices and their application in the major kinds of heating, ventilating, refrigerating, and air conditioning in American practice.

Publishers

THE FOLLOWING ABBREVIATIONS ARE USED IN ASLIB BOOK LIST

A & U	Allen & Unwin
B & S	Bailey & Swinfen
C & H	Chapman & Hall
CUP	Cambridge University Press
EUP	English Universities Press
HMSO	Her Majesty's Stationery Office
McG-H	McGraw-Hill
O & B	Oliver & Boyd
OUP	Oxford University Press
R & KP	Routledge & Kegan Paul
T & H	Thames & Hudson
ULP	University of London Press

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3 SOCIAL SCIENCES

31 Statistics

FINNEY, D. J. 350
Introduction to statistical science in agriculture, 2nd ed. Edinburgh, London, O & B, 1962. 216p, tables, diagrs. 30*s*.

B Intended to give understanding of basic principles on which statistical science is founded and manner in which it enters into agricultural problems.

GENERAL ELECTRIC COMPANY. Defense Systems Department. 351
Tables of the individual and cumulative terms of Poisson distribution. Princeton (NJ), London [etc], Van Nostrand, [1962]. xiii,202p, tables, diagrs, bibliog. $8; 62*s*.

D Cover sequence of average values of distributions from 0·0000001 to 250. More extensive than any yet published.

VESSELO, I. R. 352
How to read statistics. London, Toronto [etc], Harrap, 1962. 208p, tables, diagrs. 12*s* 6*d*.

A Aims at creating in laymen a critical attitude towards conclusions drawn from statistical statements and diagrams. Highly topical.

5 MATHEMATICAL AND NATURAL SCIENCES

51 Mathematics

AITKEN, A. C. 353
Case against decimalization. Edinburgh, London, O & B, 1962. 22p, tables. 2*s* 6*d*.

A Carefully argued plea for adoption of duodecimal system, by Fellow of Royal Society and one of greatest living authorities on arithmetical calculation.

BARTLETT, M. S. 354
Essays on probability and statistics. London, Methuen; NY, Wiley, 1962. viii,127p, tables, diagrs, bibliogs. 21*s*.

B Eight essays and lectures, three hitherto unpublished, place statistical theory in relation to general scientific thought as well as to fields of application.

BENEDIKT, O. 355
Nomographic computation of complicated and highly saturated magnetic circuits, tr. [from the Hungarian] by G. P. Dienes. Oxford, NY [etc], Pergamon P, 1962. xviii,275p, tables, diagrs. 5 *gns*; $15.

C These methods enable accurate design on paper of complex magnetic devices, without the need for approximation from experimental data. Nomographs are enclosed but are printed on paper unsuitable for design charts. No index.

BERGE, C. 356
Theory of graphs and its applications, tr. [from the French] by A. Doig. London, Methuen; NY, Wiley, 1962. x,247p, illus, tables, bibliog. 36*s*.

C Fundamental text in field of growing importance.

CROWDER, N. A. *and* MARTIN, G. C. 357
Trigonometry: a first course, consultant ed. R. Goodman. EUP, [1962]. ix 250p, tables, diagrs. 25*s*. *Tutortexts*.

A Question-and-answer text on elementary trigonometry as far as the solution of triangles, arranged to show how wrong answers can be detected and right methods developed.

DAVID, F. N. *and* BARTON, D. E. 358
Combinatorial chance. Griffin, 1962. ix,356p, tables, diagrs, bibliog. 3 *gns*.

C Not primarily concerned with applications, but provides complete and authoritative account of use to statisticians in dealing with wide range of problems.

GREENWOOD, J. A. *and* HARTLEY, H. O. 359
Guide to tables in mathematical statistics. Princeton (NJ), Princeton UP; London, OUP, 1962. lxii,1014p. $7.50; 55*s*.

D Monumental reference book and valuable guide to location of material of fundamental importance to all who use statistical techniques. Typewriter script. Sponsored by National Academy of Sciences–National Research Council.

MCMINN, S. J. 360
Matrices for structural analysis, with a foreword by W. Merchant. Spon, 1962. xii,210p, tables, diagrs, bibliog. 57*s* 6*d*. *Spon's civil engineering series*.

B Elementary treatment of matrix algebra and arithmetic of structural problems, for students and practising engineers.

52 Astronomy. Surveying. Geodesy

ALEXANDER, A. F. O'D. 361
Planet Saturn: a history of observation theory and discovery. Faber, 1962. 474p, illus, plates, tables, diagrs. 3 *gns*.

B Observations and theories of Saturn and its satellites collected in chronological order with full references to the original literature.

DAVIDSON, M. 362
Elements of mathematical astronomy: with a brief exposition of relativity. 3rd ed. rev. by C. Dinwoodie. Hutchinson, 1962. 276p, tables, diagrs, bibliog. 2 *gns*.

B Introduction to principles of mathematical astronomy and elements of relativity, for amateur astronomers and others without a teacher.

HOWARD, N. E. 363
Handbook for telescope making. Faber, 1962. x,322p, illus, tables, diagrs. 45*s*.

A Thoroughly practical and detailed account of how complete beginners can make astronomical telescopes. Published in USA as *Standard handbook for telescope making*, Thomas Y. Crowell Co., 1959.

KLECZEK, J. 364
Astronomical dictionary. NY, London, Academic P; Prague, Czechoslovak Academy of Sciences, [1962]. 972p. $25; 178*s* 6*d*.

D English, Russian, German, French, Italian, and Czech terms in astronomy and related sciences. Classified arrangement with index in each language.

53 Physics and Mechanics

BORN, M. 365
Physics and politics, [tr. from the German]; foreword by K. Lansdale. Edinburgh, London, O & B, 1962. vii,86p. 12*s* 6*d*.

A Stimulating discussion ranging from philosophical problems of quantum physics to ethics of application of science and responsibility of scientists.

GUDERLEY, K. G. 366
Theory of transonic flow, tr. from the German by J. R. Moszynski. Oxford, NY [etc], Pergamon P, 1962. xviii,344p, tables, diagrs, bibliog. 3 *gns*; $15. *International series of monographs in aeronautics and astronautics. Division 2: aerodynamics, vol. 3.*

C Comprehensive exposition giving 'state of the art' from mathematician's viewpoint. Valuable bibliography to 1956 only.

HANNAH, J. *and* HILLIER, M. J. 367
Applied mechanics. Pitman, 1962. viii,398,[4]p, plates, tables, diagrs. 18*s*.

A Elementary textbook for technical college students, covering wide range of problems.

KUHN, H. G. 368
Atomic spectra. Longmans, 1962. xvi,436p, plates, tables, diagrs, bibliog. 60*s*.

B Theoretical apparatus of classical and quantum mechanics precedes detailed treatment of spectra of atoms and ions of main types of elements, including account of x-ray spectra. For students of physics, chemistry, and astronomy.

LYKOV, A. V. *and* MIKHAYLOV, Y. A. 369
Theory of energy and mass transfer, tr. [from the Russian] by W. Begell. Englewood Cliffs, [London], Prentice-Hall, 1961. xii,324p, tables, diagrs, bibliog. $9; 3 *gns*. *Prentice-Hall international series in the physical and chemical engineering sciences.*

C Well-translated advanced text providing exhaustive modern theoretical treatment of simultaneous energy of mass transfer.

MOORE, J. E. 370
Design for good acoustics, with a foreword by E. D. Mills. Architectural P, [1961]. 91p, tables, diagrs, bibliog. 21*s*.

C For architects and students to Final RIBA standard. Deals with acoustics of auditoria, not with sound insulation. Condensed but comprehensive.

NAPOLITANO, L. G. *and* CONTURSI, G. *eds* 371
Magneto-fluid-dynamics: current papers and abstracts. Enlarged ed. NY, Oxford [etc], Pergamon P, for Advisory Group for Aeronautical Research and Development, North Atlantic Treaty Organization, 1962. xxi,251p. $10; 70*s*. *Agard bibliography 1.*

D Bibliography and abstracts arranged alphabetically by author, author index, and subject index under headings magneto-hydrodynamics, magneto-gasdynamics, magneto-fluid-dynamic waves, plasma physics, and applications.

STANDLEY, K. J. 372
Oxide magnetic materials. Oxford, Clarendon P, 1962. vii,204p, tables, diagrs, bibliog. 35*s*. *Monographs on the physics and chemistry of materials.*

C Concise authoritative account of ferrimagnetism and the preparation, properties, and applications of ferrites with spinel, garnet, and perovskite structures.

SYMPOSIUM ON HYPERVELOCITY TECHNIQUES 373
Advances in hypervelocity techniques: proceedings of the second symposium . . ., sponsored by University of Denver, Denver Research Institute, 20 and 21 March 1962, ed. by A. M. Krill. NY, Plenum P, [1962]. xi,795p, illus, tables, diagrs, bibliog. $19.50.

C Twenty-eight survey papers on various facilities for producing very high speed flows ($N > 10$) and the associated instrumentation. For research workers. Typewriter script.

374
VOCABULARY of mechanics in five languages: English/German/French/Polish/Russian; group 05, theoretical mechanics; group 10, strength of materials. NY, Oxford [etc], Pergamon P; Warsaw, Wydawnictwa Naukowo-Techniczne, [1962]. VII,190p. $15; 100*s*.

D Classified arrangement of terms with English definitions and indexes in other languages.

ZUBOV, V. L. *and* SHAL'NOV, V. P. 375
Worked examples in physics (textbook for private study). 5th ed. tr. by E. Marquit, English tr. ed. D. L. Evans. Oxford, NY [etc], Pergamon P, [1962]. xii,341p, diagrs. 35*s*; $7.50.

B Representative selection of 570 examples, roughly of intermediate physics level. Many have full solutions and short introductions.

54 Chemistry

BOND, G. C. 376
Catalysis by metals. London, NY, Academic P, 1962. ix,519p, tables, diagrs, bibliogs. 100*s*; $15.50

B Authoritative and up-to-date survey of energetics and kinetics of processes occurring on metal surfaces and especially catalytic processes involving hydrogen and deuterium. Academic treatment; little reference to applications or patent literature.

CHARLOT, G. *and others* 377
Electrochemical reactions: the electrochemical methods of analysis, by G. Charlot, J. Badoz-Lambling, B. Tremillon. Amsterdam, NY [etc], Elsevier, 1962. ix,376p, tables, diagrs, bibliog. 80*s*.

C Systematic and comprehensive account of electrochemical methods of analysis, on basis of a simple treatment of electrochemical processes by current-potential curves.

DEER, W. A. *and others* 378
Rock-forming minerals, by W. A. Deer, R. A. Howie, and J. Zussman; vol. 1, ortho- and ring silicates. Longmans, 1962. x,333p, tables, diagrs, bibliog. 95*s*.

C Critical synthesis of literature, mostly recent, on the structure, chemistry, optical and physical properties, and paragenesis of rock-forming minerals, with correlations between properties. First of five volumes.

HOLMES, P. J. *ed.* 379
Electrochemistry of semiconductors. London, NY, Academic P, 1962. xi,396p, illus, tables, diagrs, bibliog. 4 *gns*; $12. *Physical chemistry: a series of monographs, vol. 10.*

C Valuable but inadequately co-ordinated accounts of theoretical, experimental, and technological aspects. Highly advanced treatment for specialists.

SWIFT, E. H. *and* SCHAEFER, W. P. 380
Qualitative elemental analysis. San Francisco, London, Freeman, [1962]. xiv, 469p, illus, tables, diagrs. $6.75; 2 *gns*. *Series of chemistry books.*

B Detailed scheme of analysis for common elements plus titanium and vanadium, based on separation by alkyline fusion, with simple quantitative procedures for each element.

WHIPPLE, O. K. 381
Chemical properties and identification of ions: an introduction to semimicro qualitative analysis. San Francisco, Wadsworth; [London, Prentice-Hall, 1961]. vii,310p, illus, tables, diagrs. 30*s*.

B Theory and practice of identification of the common anions and cations on semimicroscale with diagrammatic summaries of procedures.

6 APPLIED SCIENCES

62 Engineering and Technology

SINGER, F. L. 382
Strength of materials. 2nd ed. NY, Harper; [London, Hamish Hamilton], [1962]. xviii,590p, tables, diagrs. $8.75; 3 *gns.*

B Well-written introduction to elementary problems of stress analysis and engineering structures, including beams, columns, and connections.

WEIBULL, W. 383
Fatigue testing and analysis of results. Oxford, London, Pergamon P for Advisory Group for Aeronautical Research and Development, North Atlantic Treaty Organization, 1961. xiii,305p, plate, tables, bibliog. 4 *gns.*

C

621 *Mechanical and Electrical Engineering*

BLACKMAN, P. F. 384
Pole-zero approach to systems analysis; based on a series of articles in *Control.* Rowse Muir Publications, [1961]. 44p, diagrs, bibliog. 10*s.* *Control monograph 2.*

C Account of important method for analysis and synthesis of linear control systems, for control engineers and students.

BRAGG, S. L. 385
Rocket engines. Newnes, 1962. 158p, plates, tables, diagrs, bibliog. 35*s.*

B Concise account of basic theory of liquid propellant rocket engines, for engineering students and potential rocket engineers.

HOUGHTON, P. S. 386
Milling machine. 2nd ed. Crosby Lockwood, 1962. x,229p, illus, tables, diagrs. 20*s.*

B Textbook for City and Guilds and comparable courses. Minor revision of 1948 edition.

STOCKDALE, L. A. 387
Servomechanisms. Pitman, 1962. viii,295p, tables, diagrs, bibliog. 35*s.*

B Deals with linear and non-linear feedback control systems by physical considerations and mathematical analysis. Experiments, worked examples, and problems with answers.

SYMPOSIUM ON RECENT MECHANICAL ENGINEERING DEVELOPMENTS IN AUTOMATIC CONTROL 388
Proceedings of the symposium . . ., London, 5–7 January 1960. Institution of Mechanical Engineers, 1961. viii,227p, illus. 3 *gns.*

B

621.3 *Electrical Engineering*

AMOS, S. W. *and* BIRKINSHAW, D. C. 389
Television engineering: principles and practice; vol. 4, general circuit techniques. 2nd ed. Iliffe, for *Wireless World,* [1962]. 277p, plates, tables, diagrs, bibliog. 35*s.* *BBC engineering training manuals.*

B Standard work by and for members of the staff of the BBC. Slight revision only – chiefly of chapter on line output stages.

BISHOP, C. C. 390
Single and polyphase vectors. NY, Rider, [1962]. [6],116p, tables, diagrs. $2.90.

B Collection of vector and circuit diagrams for electrical circuits, transformers, rotating machines, and transmission lines, with notes on testing and operation, complex quantities, and symmetrical components.

BLAKEMORE, J. S. 391
Semiconductor statistics. Oxford, NY [etc], Pergamon P, 1962. xii,381p, tables, diagrs, bibliog. 4 *gns*; $12.50. *International series of monographs on semiconductors, vol. 3.*

C Introduction to statistical theory of hole and electron concentrations for intrinsic and extrinsic semiconductors in thermal equilibrium, followed by detailed analytical accounts of carrier lifetime, radiative and non-radiative recombination processes, and the special distribution of carriers in relation to non-equilibrium processes in excess carrier semiconductors.

CLASON, W. E. *comp.* 392
Russian supplement to Elsevier's dictionary of amplification, modulation, reception, and transmission. Amsterdam, London [etc], Elsevier, 1961 [i.e. Apr 62]. [4],87p. 60*s*.

D Alphabetical list of terms in Russian with numerical index to terms in the main six-language work (*Aslib Book List*, vol. 25, entry 293).

HUGHES, R. J. *and* PIPE, P. 393
Introduction to electronics, consultant ed. R. Goodman. EUP, [1962]. x,422p, diagrs. 25*s*. *Tutortexts.*

A Teaches electronics for radio communications in question-and-answer form employing automatic teaching methods as used in American teaching machines.

JOHNSON, J. R. 394
How to build electronic equipment. NY, Rider, [1962]. vi,290p, illus, tables, diagrs. $6.95.

A Well written and illustrated, with many useful dos and don'ts; unfortunately expensive.

POLLACK, H. 395
Basic principles and applications of relays. NY, Rider, [1962]. viii,104p, illus, diagrs. $2.90.

A–B Chiefly concerned with relays in electronic and timing circuits. Well illustrated.

QUARTLY, C. J. 396
Square-loop ferrite circuitry: storage and logic techniques. London, Iliffe; Englewood Cliffs (NJ), Prentice-Hall, 1962. vii,166p, tables, diagrs, bibliog. 2 *gns*.

C Complete coverage, including square-loop ferrites, different storage systems, core logic, and apertured plates, all clearly illustrated.

SCHLESINGER, R. J. *and others* 397
Principles of electronic warfare. Prentice-Hall, [©1961]. ix,213p, tables, diagrs, bibliog. 2 *gns*. *Prentice-Hall space technology series.*

B Examines techniques and tactics, analyses problems of reconnaissance systems and roles of aerials as transducers, and includes noise theory in context of electronic countermeasures.

SIMPSON, J. H. *and* RICHARDS, R. S. 398
Physical principles and applications of junction transistors. Oxford, Clarendon P, 1962. xiv,519p, tables, diagrs, bibliog. 3 *gns*. *Monographs on the physics and chemistry of materials.*

C Text for electrical engineers, covering basic physics of transistors and related devices, equivalent circuits, biasing, noise, negative feedback, and physical factors underlying practical design of amplifiers, switching circuits, and oscillators.

SPREADBURY, E. A. W. 399
Television receiver servicing; vol. 2, receiver and power supply circuits. 2nd ed. Iliffe, [1962]. vii,475p, illus, diagrs. 35*s*.

B Completely revised manual for servicemen already well qualified in radio field, by Technical Editor of *Wireless and Electrical Trader*.

STILTZ, H. L. *ed.* 400
Aerospace telemetry. Prentice-Hall, 1961. xiii,505p, illus, tables, diagrs. 70*s*. *Prentice-Hall space technology series.*

B Deals with methods and techniques rather than with transducers. Includes data sampling, forms of modulation, tape recording, and overall system design.

WELLS, R. 401
Static power convertors: performance and application. C & H, 1962. xi,276p, plates, tables, diagrs, bibliog. 40*s*. *Series of monographs on electrical engineering, vol. 17.*

B Discusses performance and applications of static convertor equipment with emphasis on the glass-bulb mercury-arc rectifier. Chapter on germanium power diodes.

621.7 *Workshop Practice*

ORD, H. 402
Engineering drawing and materials for mechanical engineering technicians; vol. 1. EUP, 1962. ix,117p, tables, diagrs. 11*s* 6*d*. *General technical series.*

B Sound practical introduction for first-year students of new T1 mechanical technicians course of City and Guilds of London Institute and comparable courses.

READ, H. J. *ed.* 403
Hydrogen embrittlement in metal finishing, sponsored by the American Electroplaters' Society. NY, Reinhold; London, C & H, [1962]. [iv],213p, illus, tables, diagrs, bibliog. $7.50; 60*s*.

C Nine review articles and original papers covering topics from effects and theories of hydrogen embrittlement to studies of methods by which hydrogen pick-up during plating may be reduced.

SCHIFFER, G. R. 404
Guide to engineering drawing. London, Glasgow, Blackie, [1962]. iv,42p, table, diagrs. 6*s* 6*d*.

B Quick reference for students and instructors in university, GCE, and National Certificate courses.

622 *Mining*

OSTROVSKII, A. P. 405
Deep-hole drilling with explosives, tr. from the Russian. NY, Consultants Bureau, [1962]. vi,133p, illus, tables, diagrs, bibliog. $17.50.

C Description and discussion of rock penetration, having the shape of a bore-hole, by alternate explosive shattering and flushing of rock.

624 *Structural Engineering*

HAMMOND, R. 406
Modern piling practice. Contractors Record, 1962. 225p, illus, tables, diagrs, bibliog. 50*s*.

C General survey for practising engineers and advanced students. Emphasis on bored and cast-in-place piles.

LEE, D. H. 407
Introduction to deep foundations and sheet-piling. Rev. ed. Concreted Publications, 1961. viii,264p, illus, plate, tables, diagrs, bibliog. 20*s*. *Concrete series*.

B New matter includes recent developments in bearing piles particulars of prestressed concrete piles, and underwater tunnels.

WALTERS, R. C. S. 408
Dam geology. Butterworths, 1962. viii,335p, illus, tables, diagrs, bibliog. 70*s*.

B General review of geological considerations relating to design and construction of dams and related structures, and survey of selected British and overseas dams.

629.1 *Transport Engineering*

629.19 *ASTRONAUTICS*

BAZOVSKY, I. 409
Reliability theory and practice. Prentice-Hall, [©1961]. xii,292p, tables, diagrs. 2 *gns*. *Prentice-Hall space technology series*.

B Analyses reliabilities of component parts, failure rates, and overall system reliability. Theory of probability and statistical analysis presented in form suitable for engineers.

MACKO, S. J. 410
Satellite tracking. NY, Rider, [1962]. vi,178p, illus, tables, diagrs. $5.50.

B Describes general principles of satellites, orbital elements and their computation from tracking data, methods of determining visibility, and optimum launching times to achieve orbit.

77 Photography

HAWKEN, W. R. 411
Photocopying from bound volumes: a study of machines, methods, and materials. Chicago, American Library Association, [©1962]. xvi,208p, illus, tables, diagrs. $5. *Library Technology Project publications, no. 4*.

B Covers current methods and equipment for contact reflex copying by photographic and non-photographic means. Chapter on optical copying.

SNOW, P. 412
Electronic flashlight photography. Fountain P, 1961. 174p, plates, tables, diagrs. 2 *gns*.

A Textbook on choice and use of equipment in various branches of amateur and professional photography.

SCHREYER, R. *and others* 413
Dictionary of photography and cinematography: English, German, French, Russian, by R. Schreyer, S. Maurer, F. W. Wolter. Halle, Fotokinoverlag; London, Focal P, 1961. Bibliog. 70*s*.

D German index is alphabetical with items numbered 1–17,359. Other languages have alphabetic and numerical indexes. Reference is made by looking up in appropriate alphabetical index and then in numerical index of target language. Various paging.

Publishers

THE FOLLOWING ABBREVIATIONS ARE USED IN ASLIB BOOK LIST

A & U	Allen & Unwin
B & S	Bailey & Swinfen
C & H	Chapman & Hall
CUP	Cambridge University Press
EUP	English Universities Press
HMSO	Her Majesty's Stationery Office
McG-H	McGraw-Hill
O & B	Oliver & Boyd
OUP	Oxford University Press
R & KP	Routledge & Kegan Paul
T & H	Thames & Hudson
ULP	University of London Press

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4 PHILOLOGY

HOLT, A. 414

Scientific Russian: grammar, reading and specially selected scientific translation exercises and an extensive glossary. C & H, 1962. xv,195p, tables, diagrs. 36*s*.

B Essentials of grammar, vocabularies, transliteration table, Russian chemical nomenclature, Russian–English translation exercises, and a glossary.

5 MATHEMATICAL AND NATURAL SCIENCES

CATTELL, J. *ed.* 415

American men of science: a biographical directory. 10th ed. Physical & biological sciences. Tempe (Arizona), Jaques Cattell P. 4v. $25 each.

D Vols 1–2, A–E, F–K, published 1960; vols 3–4, L–R, S–Z, published 1961. This edition is one-third greater than the last, and the new arrangement, amalgamating physical and biological sciences, is helpful where the individual's field of activity is uncertain. 4,586 pages.

DE BEER, G. 416

Reflections of a Darwinian: essays and addresses. Nelson, [1962]. xi,212p, plate, diagrs. 25*s*.

A Scholarly essays and lectures on subjects ranging from Darwin, evolution, museums, science and the humanities, to scientific solutions to three historical problems: Hannibal's route across the Alps, the Etruscans, and Iktin.

51 Mathematics

417

ALGEBRAICAL and topological foundations of geometry: proceedings of a colloquium held in Utrecht, August 1959, sponsored by the International Mathematical Union, organized on behalf of the Netherlands Mathematical Society by H. Freudenthal. Oxford, NY [etc], Pergamon P, 1962. vii,208p, tables, diagrs, bibliog. 70*s*; $10.

C Papers by mathematical specialists summarize recent discoveries on foundations of geometry. Some papers in German and French.

BIRNBAUM, Z. W. 418

Introduction to probability and mathematical statistics. NY, Harper; [London, Hamish Hamilton], [1962]. viii,325p, tables, diagrs. $6.50; 46*s*.

B Of great value to students who have a firm grasp of the calculus and matrix algebra.

CRANK, J. 419

Mathematics and industry. London, NY [etc], OUP, 1962. viii,91p, tables, diagrs, bibliog. 12*s* 6*d*. *Oxford mathematical handbooks.*

B Shows how to put mathematics to really practical use in variety of industrial problems. For Dip. Tech. and degree students, engineers, and scientists.

ESTERMANN, T. 420

Complex numbers and functions. Athlone P, 1962. viii,250p, diagrs, bibliog. 2 *gns*.

C Honours degree text for young specialists, based on rigorous analysis and avoidance of geometric intuition, giving standard course in function theory including Jordan's curve theorem and Picard's theorem.

FLETCHER, A. *and others* 421
Index of mathematical tables. 2nd ed. Oxford, Blackwell Scientific for Scientific Computing Service, 1962. Bibliog. 2v. 300*s*.

D Vol. 1, introduction; part I: index to functions. xi,608p. Vol. 2, part 2: bibliography; part 3: errors; part 4: index to introduction and part 1. iv,609–994p. Over 50 per cent larger than first (1946) edition. Valuable new section listing errors in many tables.

HENRICI, P. K. 422
Discrete variable methods in ordinary differential equations. NY, London, Wiley, 1962. xi,407p. $11.50; 87*s*.

C Originated in course of lectures on numerical methods in differential equations.

KLINE, M. 423
Mathematics: a cultural approach. Reading (Mass), Addison-Wesley, 1962. xv,701p. $7.75.

B Integrated one-year course for arts degree undergraduates.

RACTLIFFE, J. F. 424
Elements of mathematical statistics. London, NY [etc], OUP, 1962. x,202p, tables, diagrs. 25*s*. *Oxford mathematical handbooks.*

B Systematic treatment of fundamentals for Dip. Tech. students and practising engineers and scientists. Examples, exercises, and test papers.

RIORDAN, L. 425
Stochastic service systems. NY, London, Wiley, [1962]. x,139p, bibliog. $6.75; 51*s*. *Society for Industrial and Applied Mathematics series, no. 1.*

C Valuable connected account of essential mathematical/statistical results in an important and topical field of study concerning practical problems such as traffic, telephones, supermarket design, and satellite communications.

ROBERTS, J. B. 426
Real number system in an algebraic setting. San Francisco, London, Freeman, [1962]. ix,145p, diagrs, bibliog. $1.75; 10*s* (paper), 20*s* (cloth). *Golden gate books.*

B Real number system is developed from the basis of positive integers in terms of algebraic concepts such as sets, mappings, and isomorphisms, thus dealing with classical results by modern methods.

53 Physics and Mechanics

CRAFTON, P. A. 427
Shock and vibration in linear systems. NY, Harper; [London, Hamish Hamilton], [©1961]. xi,415p, tables, diagrs, bibliog. $10; 70*s*.

B First textbook on dynamical behaviour of linear systems for students of mechanical and structural engineering.

TIPPER, C. F. 428
Brittle fracture story. Cambridge, CUP, 1962. viii,198p, plates, tables, diagrs, bibliog. 37*s* 6*d*. *Cambridge engineering series.*

C Account of author's investigations on brittle fractures which occurred in all-welded ships during the 1939–45 war, related to work of other investigators.

54 Chemistry

DAVIES, C. W. 429
Ion association. Butterworths, 1962. viii,190p, tables, diagrs, bibliog. 40*s*.

C Critical appraisal of methods of study, data on, and consequences of ion pair formation.

DEER, W. A. *and others* 430
Rock-forming minerals; vol. 3, sheet silicates, by W. A. Deer, R. A. Howie, and J. Zussman. Longmans, 1962. x,270p, plate, tables, diagrs, bibliog. 95*s*.

C Critical synthesis of literature on structure, chemistry, optical and physical properties, and paragenesis of rock-forming minerals, with emphasis on correlations between properties.

431
ELECTROLYTES: proceedings of an international symposium held in Trieste, June 1959, ed. by B. Pesce. Oxford, NY [etc], Pergamon P, 1962. viii,360p, tables, diagrs, bibliog. 100*s*; $15.

B–C Important contributions by leading authorities on ionic solutions, covering theoretical and experimental studies of ion-ion and ion-solvent interaction and electrical conductance. Some papers in German, Italian, and French.

GROFCSIK, J. *and* TAMAS, F. 432
Mullite: its structure, formation, and significance. Budapest, Akademiai Kiado; [London, Collet's], 1961. 130p, tables, diagrs, bibliog. 2 *gns*.

B

433
RETARDATION of evaporation by monolayers: transport processes, ed. by V. K. La Mer. NY, London, Academic P, 1962. xx,277p, illus, tables, diagrs, bibliog. $10; 80*s*.

C Collected papers from a 1960 US symposium, giving valuable summary of recent work, with special relevance to water conservation.

VAN SOMEREN, E. H. S. *and* LACHMAN, F. 434
Spectrochemical abstracts; vol. 7, 1956–1959. Hilger & Watts, [1962]. [4],104p, 2 *gns*.

C Continues systematic collection of abstracts started in 1933 and includes for first time x-ray fluorescence spectroscopy.

WALEY, S. G. 435
Mechanisms of organic and enzymic reactions. Oxford, Clarendon P, 1962. xiv,365p, tables, diagrs, bibliog. 70*s*.

B Discusses specific reactions, important to both organic chemists and biochemists, from a common standpoint.

548 *Crystallography*

GRAY, G. W. 436
Molecular structure and the properties of liquid crystals. London, NY, Academic P, 1962. vii,314p, plates, tables, diagrs, bibliog. 3 *gns*; $10.

C Authoritative account of nature, occurrence, physical investigation, and theories of liquid-crystalline state, with particular reference to effect of substituents and steric factors on mesomorphic behaviour. For specialists.

55 Geology. Meteorology

BOSWELL, P. G. H. 437
Muddy sediments: some geotechnical studies for geologists, engineers and soil scientists. Cambridge, Heffer, 1961 [i.e. Jan 1962]. x,140p, tables, diagrs, bibliog. 14*s*.

B Summary of present state of knowledge, partly original and partly based on author's previously published work.

BOUMA, A. H. 438
Sedimentology of some flysch deposits: a graphic approach to facies interpretation, with a foreword by H. Kuenen and a preface by F. P. Shepard. Amsterdam, NY, Elsevier, 1962. xii,168p, illus, tables, diagrs, bibliog. 32 *glds*; $12; 64*s*.

C Pioneer study of microstratigraphy and petrology of a flysch formation in the French Alps, compared with flysch deposits from certain other localities, with account of field and laboratory techniques. Useful glossary and bibliography.

EAMES, F. E. *and others* 439
Fundamentals of mid-tertiary stratigraphical correlation. Cambridge, CUP, 1962. viii,163p, plates, tables, diagrs, bibliog. 50*s*.

C For stratigraphers and petroleum geologists.

SULLIVAN, W. 440
Assault on the unknown: the International Geophysical Year. Hodder and Stoughton, 1962. xiv,460p, illus, plates, tables, diagrs. 30*s*.

A Interesting non-technical descriptions of more important geophysical investigations of IGY, with special attention to Project Argus and the Van Allen belts.

57 Anthropological and Biological Sciences

DAWSON, G. W. P. 441
Introduction to the cytogenetics of polyploids. Oxford, Blackwell, 1962. [5],96p, plate, tables, diagrs. 10*s* 6*d*.

B Covers production of polyploids; behaviour of their chromosomes, and consequent Mendelian ratios; effects of mutation, selection, and isolation; study of natural populations.

HUMASON, G. L. 442
Animal tissue techniques. San Francisco, London, Freeman, [1962]. xv,468p, tables, diagrs, bibliog. $8.50; 57*s*. *Series of biology books*.

B Laboratory handbook dealing with histology, with chapters on electron microscopy and histochemical methods. Does *not* cover tissue culture methods, vital staining, or use of radioisotopes.

MORAN, P. A. P. 443
Statistical processes of evolutionary theory. Oxford, Clarendon P, 1962. vii, 200p, tables, diagrs, bibliog. 38*s*.

C Modern mathematical theory of effects of mutation, selection, isolation, migration, etc. on genetic structure of a population. Theoretical rather than practical.

SMYTH, J. D. 444
Introduction to animal parasitology. EUP, 1962. xx,470p, illus, tables, diagrs, bibliog. 37*s* 6*d*. *Biological science texts*.

B Outlines host potentialities of vertebrates and, stressing physiochemical relationships, shows how these are used by endoparasites; with emphasis on those for laboratory culture.

SYMPOSIUM ON SELF-ORGANIZATION 445
Principles of self-organization: transactions of the University of Illinois symposium . . ., Robert Allerton Park, 8 and 9 June, 1961, sponsored by Information Systems Branch, US Office of Naval Research, ed. by H. Von Foerster and G. W. Zopf. Oxford, NY [etc], Pergamon P, 1962. xviii,541p, plates, tables, diagrs, bibliog. 5 *gns*; $15.

C How do biological systems organize themselves, how do undifferentiated masses of cells become differentiated? Some of these papers succeed in explaining possible types of behaviour in random arrangements of cells with well defined properties.

58 Botany

MARTIN, A. C. *and* BARKLEY, W. D. 446
Seed identification manual. Berkeley (Cal), California UP; Cambridge, CUP, 1961. [7],221p, illus, diagrs, bibliog. $10; 80*s*.

C Claimed to be first manual on this scale. Accurate indication given of scale of magnification in every case. Scientific and common (American) names cover some 600 species.

PRIESTLEY, C. A. 447
Carbohydrate resources within the perennial plant: their utilization and conservation, with a foreword by F. R. Tubbs. Farnham Royal (Bucks), Commonwealth Agricultural Bureaux, 1962. x,116p, tables, bibliog. 15*s*. *Commonwealth Bureau of Horticulture and Plantation Crops, technical communication no. 27.*

B–C Well-documented summary of present knowledge of storage and metabolism of carbohydrates in woody plants, with special reference to fruit trees. Discusses aspects needing further investigation.

ZOHARY, M. 448
Plant life of Palestine: Israel and Jordan. NY, Ronald P, 1962. vi,262p, illus, diagrs. $8. *Chronica botanica, no. 33.*

C Ecological study of biogeographical area of Palestine, considering flora, plant communities, and agricultural features, with considerable stress on trees.

59 Zoology

JENKIN, P. M. 449
Animal hormones: a comparative survey; part 1, kinetic and metabolic hormones, with a foreword by J. E. Harris. Oxford, NY [etc], Pergamon P, 1962. xv,310p, plates, tables, diagrs, bibliog. 45*s*; $7.50. *International series of monographs on pure and applied biology. Division: zoology, vol. 6.*

B Lucid account of action of hormones controlling muscles, pigment cells, exocrine and endocrine glands, intermediary metabolism, and water and ionic balance in wide range of animals.

POPE, C. H. 450
Giant snakes: the natural history of the boa constrictor, the anaconda, and the largest pythons, including comparative facts about other snakes and basic information on reptiles in general. London, R & KP; [NY, Knopf], 1962. xv, 290,vip, plates, tables, bibliog. 50*s*.

A–B First comprehensive account, well-written and scientifically accurate, based largely on material hitherto available only in scattered journals.

TEBBLE, N. 451
Distribution of pelagic polychaetes across the north Pacific. British Museum (Natural History), 1962. p.371–492, illus, tables, diagrs, bibliog. 55*s*. *Bulletin of the British Museum (Natural History). Zoology, vol. 7, no. 9.*

C Valuable contribution to our knowledge of the systematics and zoogeography of this important group of planktonic animals, based on detailed study of extensive collection of material.

WYNNE-EDWARDS, V. C. 452
Animal dispersion in relation to social behaviour. Edinburgh, London, O & B, 1962. xi,653p, illus, plates, tables, diagrs, bibliog. 55*s*.

B–C Thorough exposition of largely novel theory ascribing to much social behaviour in all groups of animals the function of maintaining population density below starvation level.

ZAKS, M. G. 453
Motor apparatus of the mammary gland, tr. [from the Russian] by D. G. Fry, ed. by A. T. Cowie. Edinburgh, London, O & B, 1962. ix,190p, plates, tables, diagrs, bibliog. 40*s*.

C Review of current knowledge, dealing mainly with cattle. Published USSR in 1958.

ZUCKERMAN, S. *ed.* 454
The ovary, ed. by S. Zuckerman assisted by A. M. Mandle and P. Eckstein; vol. 1. NY, London, Academic P, 1962. xiii,619p, illus, tables, diagrs. $22; 157*s* 6*d*.

C Specialist contributions, with emphasis on mammalian ovary. Well illustrated and documented.

6 APPLIED SCIENCES

61 Health and Safety

BUCHANAN, W. D. 455
Toxicity of arsenic compounds. Amsterdam, London [etc], Elsevier, 1962. VIII,155p, illus, tables, bibliog. 12.50 *glds*; 25*s*. *Elsevier monographs on toxic agents.*

C Monograph by HM Deputy Senior Inspector of Factories, for factory safety officers, those concerned with the technology of the materials, and toxicologists.

62 Engineering and Technology

456
FIRST international congress on metallic corrosion, London 10–15 April, 1961. Butterworths, 1962. xvi,712p, illus, plate, tables, diagrs, bibliog. 10 *gns*.

B Eighty-four specialist papers covering wide range of subjects, with four plenary lectures by workers of world-wide repute.

GLIKMAN, L. A. 457
Corrosion-mechanical strength of metals, tr. [from the Russian] by J. S. Shapiro. Butterworths in association with Department of Scientific and Industrial Research, 1962. [7],172p, illus, tables, diagrs, bibliog. 50*s*.

C Experimental data and operative mechanisms on combined effect of stress and corrosion on mechanical properties of metallic materials. Insight into Russian work.

JOHNSON, W. *and* MELLOR, P. B. 458
Plasticity for mechanical engineers. London, Princeton (NJ) [etc], Van Nostrand, [1962]. xi,412p, tables, diagrs, bibliog. 65*s*.

C Work on applied plasticity containing solutions to many problems of technological importance; should be of great value to designers and materials technologists.

JONES, R. 459
Non-destructive testing of concrete. Cambridge, CUP, 1962. x,104p, plates, tables, diagrs, bibliog. 25*s*. *Cambridge engineering series.*

C Basic monograph on resonance and pulse methods and those which make use of radioactive absorption and surface hardness properties.

LEVIN, I. A. *ed.* 460
Intercrystalline corrosion and corrosion of metals under stress, tr. from the Russian. NY, Consultants Bureau, 1962. [6],320p, illus, tables, diagrs, bibliog. $18.

C Original papers dealing with various aspects of corrosion in plain carbon, low-alloy, and stainless steels; in light alloys; and in other non-ferrous materials.

621 *Mechanical and Electrical Engineering*

461

ADVANCES in cryogenic engineering; vol. 7, proceedings of the 1961 cryogenic engineering conference, University of Michigan, Ann Arbor, Michigan, August 15–17, 1961, ed. by K. D. Timmerhaus. NY, Plenum P, 1962. x,582p, illus, tables, diagrs, bibliog. $15 (domestic); $17.50 (foreign). *Cryogenic engineering conference publications.*

C New basic data, low temperature cycles, superconducting devices, insulants, etc.

SYMPOSIUM ON AUTOMATIC CONTROL 462

Report of . . . held at the Institution of Mechanical Engineers, London, on 27th and 28th September 1960, sponsored by the British Conference on Automation and Computation, arranged by the Institution of Mechanical Engineers, covering the British contribution to the 1st International Congress of the International Federation of Automatic Control held in Moscow on 27th June to 7th July 1960. Institution of Mechanical Engineers, 1962. iv,116p, illus, tables, diagrs. 20*s*.

C Discussion of British contributions to first IFAC congress. Valuable supplement to full proceedings (published by Butterworths in four vols at £45).

WILSON, A. C. 463

Motor boat engines: a practical handbook on petrol and diesel engines and auxiliary equipment for small marine craft. Odhams P, 1962. 224p, illus, diagrs. 30*s*.

A Practical manual for the amateur boat owner; clear and well written.

621.039 *NUCLEAR ENGINEERING*

CONFERENCE ON SMALL AND MEDIUM POWER REACTORS 464

Small and medium power reactors; vol. 1, proceedings of the conference . . . sponsored by the International Atomic Energy Agency and held at Vienna, Sept. 5–9, 1960. Vienna, the Agency; [London, HMSO], 1961. 621p, illus. 54*s*.

C General review of reactor systems and experience in construction and operation.

STOLLER, S. M. *and* RICHARDS, R. B. *eds* 465

Reactor handbook; vol. 2, fuel processing. 2nd ed. NY, London, Interscience, 1961. xii,665p, illus, tables, diagrs, bibliog. $21.40; 158*s*.

C Sponsored by USAEC. One of four essential volumes. Substantial revision.

SYMPOSIUM ON CRITICALITY CONTROL 466

Criticality control in chemical and metallurgical plant: Karlsruhe symposium 1961. Paris, Organization for Economic Co-operation and Development, European Nuclear Energy Agency; [London, HMSO], 1961. 624p, illus, tables, diagrs, bibliog. 3 *gns*.

C Fundamentals and criticality control in plant design and engineering. Some French.

SYMPOSIUM ON NUCLEAR SHIP PROPULSION 467

Nuclear ship propulsion: proceedings of a symposium . . . with special reference to nuclear safety, sponsored by the International Atomic Energy Agency in co-operation with the Inter-governmental Maritime Consultative Organization and held at Taormina, Italy, 14–18 November 1960. Vienna, the Agency; [London, HMSO], 1961, 602p, illus, plate, tables, diagrs. 60*s*. *IAEA proceedings series.*

C Few papers in French. Abstracts in English, French, Russian, and Spanish.

621.3 *Electrical Engineering*

BARLOW, H. M. *and* BROWN, J. 468
Radio surface waves. Oxford, Clarendon P, 1962. xi,200p, diagrs, bibliog. 2 *gns. International monographs on radio.*

C Advanced treatise giving current thought on the subject; much is collected from work previously published in various countries.

CALABRO, S. R. 469
Reliability principles and practice. NY, London [etc], McG-H, [©1962]. xii,371p, tables, diagrs, bibliog. $10.50; 81*s* 6*d.*

B Down-to-earth approach to complex problems of increasing importance, by director of product assurance division of large American communications company.

EVANS, J. 470
Fundamental principles of transistors. 2nd ed. Heywood, 1962. xii,332p, plates, tables, diagrs, bibliog. 50*s.*

B Introduction to principles of operation of transistors and associated semiconductor devices, with consideration of methods of fabrication and measurement of parameters.

HADDEN, H. B. 471
High-quality sound production and reproduction: sound studio and outside broadcasting practice. Iliffe for *Wireless World,* 1962. xi,273p, illus, plates, tables, diagrs. 2 *gns. BBC programme operations training manual.*

B Authoritative textbook on whole subject; essentially non-mathematical and very readable, it will be of value to all concerned with broadcasting and sound-recording.

HENSON, C. S. 472
Solution of problems in telecommunications and electronics. 2nd ed. Pitman, 1962. xi,330p, tables, diagrs. 27*s* 6*d.*

B Over 250 problems from recent examination papers with answers, and over fifty fully worked examples.

473
MICROMINIATURIZATION: proceedings of the Agard conference, Oslo, July 24–26 1961, ed. by G. W. A. Dummer. Oxford, NY [etc], Pergamon P for Advisory Group for Aeronautical Research and Development, North Atlantic Treaty Organization, 1962. x,355p, illus, tables, diagrs, bibliog. 5 *gns*; $15. *Agardograph 57.*

B Twenty-five papers on fundamental concepts, design, manufacture, applications, testing, and reliability of micromodules, microcircuits, and solid circuits applied to electronic development.

PULLEN, K. A. 474
Theory and application of topological and matrix methods. NY, Rider, [1962]. vii,100p, table, diagrs, bibliog. $2.50. *Electrical engineering monograph series.*

B Presents some basic features of methods required in solution of actual and equivalent electrical networks. Examples, problems, and definitions.

SAY, M. G. *ed.* 475
Newnes concise encyclopaedia of electrical engineering. Newnes, 1962. xii,906p, tables, diagrs, 140*s.*

D Comprehensive reference covering power production and utilization and related topics in electronics and nuclear engineering.

629.1 *Transport Engineering*

629.19 *ASTRONAUTICS*

476

ADVANCES in astronautical propulsion: proceedings of a seminar held in Milan by Istituto Lombardo Accademia di Scienze e Lettere in collaboration with Advisory Group for Aeronautical Research and Development of Nato, 8–12 September 1960, ed. by C. Casci. Oxford, NY [etc], Pergamon P; Milan, Editrice Politecnica Tamburini, 1962. xxvii,366p, illus, plates, tables, diagrs, bibliog. 100*s*; $14. *International series of monographs in aeronautics and astronautics. Division 9: symposia, vol. 11.*

C Fifteen papers together provide interesting and authoritative account of recent advances in astronautical propulsion and their probable future role. Three papers in Italian.

477

COMMUNICATIONS satellites: proceedings of a symposium held in London on 12 May 1961, organized by the British Interplanetary Society, advisory ed. L. J. Carter. London, NY, Academic P, 1962. ix,202p, plates, tables, diagrs, bibliog. 2 *gns*; $7.

C Major papers on orbits, design, engineering, and economics of communication satellites, channel dropping, the Courier satellite, and Commonwealth communication systems.

HOBBS, M. 478

Fundamentals of rockets, missiles and spacecraft. NY, Rider, [1962]. illus, tables, diagrs. $8.95.

B Basic principles of rocket propulsion, vehicle construction, launching, guidance and control, telemetry. Describes applications of techniques to current and future concepts.

SYMPOSIUM ON BALLISTIC MISSILE AND AEROSPACE TECHNOLOGY 479

Ballistic missile and aerospace technology: proceedings of the sixth symposium . . ., held in Los Angeles, California, in August 1961, sponsored by Headquarters Office of the Deputy Commander, Air Force Systems Command for Aerospace Systems and Aerospace Corporation, ed. by C. T. Morrow, L. D. Ely, and M. R. Smith. NY, London, Academic P, 1961 [i.e. Mar 62]. Illus, tables, diagrs, bibliog. 4v.

C Vol. 1, design and reliability, and invited addresses. x,404p. $8; 64*s*. Vol. 2, ballistic missile and space electronics. x,453p. $9; 74*s*. Vol. 3, propulsion, space science, and space exploration. x,445p. $9; 74*s*. Vol. 4, re-entry. x,240p. $5; 40*s*. Fifty-nine papers on vehicle design parameters, reliability analysis of circuits and structures, guidance and computer techniques, propulsion systems and design trends, design for re-entry. Typewriter script.

SYMPOSIUM ON LUNAR FLIGHT 480

Lunar exploration and spacecraft systems: proceedings of the symposium . . . held December 27, 1960, in New York City, ed. by R. Fleisig, E. A. Hine, G. J. Clark. NY, Plenum P, [1962]. ix,201p, illus, tables, diagrs, bibliog. $10. *American Astronautical Society publications.*

C Eight papers describing lunar exploration, including dust distribution, radiation shielding, nuclear auxiliary power systems, tracking beacons, and landing guidance sensors.

63 Agriculture. Forestry. Livestock. Fisheries

AITKEN, F. C. *and* WILSON, W. K. 481

Rabbit feeding for meat and fur. 2nd ed. Farnham Royal (Bucks), Commonwealth Agricultural Bureaux, 1962. [4],63p, tables, bibliog. 12*s* 6*d*. *Commonwealth Bureau of Animal Nutrition, technical communication no. 12.*

B Well-documented review of present scientific knowledge of nutritional requirements, with descriptions of satisfactory diets. First ed. was by W. K. Wilson and W. McCartney.

BRITISH ECOLOGICAL SOCIETY 482
Exploitation of natural animal populations: a symposium of the British Ecological Society, Durham, 28th–31st March 1960, ed. by E. D. Le Cren and M. W. Holdgate. Oxford, Blackwell Scientific, 1962. xiv,399p, tables, diagrs, bibliog. 60*s*. *Symposia, no. 2.*

C

EVANS, S. A. 483
Weed destruction: a farmers' and students' guide. Oxford, Blackwell Scientific, 1962. xii,172p, illus, tables, diagrs. 27*s* 6*d*.

A Includes drawings and descriptions of common weeds and much useful information on selective and non-selective weedkillers.

MAULE, J. P. *ed.* 484
Semen of animals and artificial insemination. Farnham Royal (Bucks), Commonwealth Agricultural Bureaux, 1962. xviii,420p, plates, tables, diagrs, bibliog. 60*s*. *Commonwealth Bureau of Animal Breeding and Genetics, technical communication no. 15.*

B Covers all aspects of artificial insemination of cattle, buffaloes, sheep, goats, pigs, horses, dogs, rodents, and poultry. Authoritative text for both field and laboratory workers.

PRICE, W. T. *ed.* 485
The pig: modern husbandry and marketing. Bles, 1962. xix,281p, plates, tables, diagrs, bibliog. 2 *gns*.

B Combines sections on specialist branches to illustrate their importance to all breeders.

486
REVIEW of nitrogen in the tropics with particular reference to pastures: a symposium ed. by a committee of the Division of Tropical Pastures, CSIRO, Australia. Farnham Royal (Bucks), Commonwealth Agricultural Bureaux, 1962. v,185p, tables, diagrs, bibliog. 35*s*. *Commonwealth Bureau of Pastures and Field Crops, bulletin 46.*

C Concerned exclusively with grasslands and grassland soils, with emphasis on legume nitrogen, though use of fertilizers is briefly discussed. Scope is wider than the tropics.

SHARVELLE, E. G. 487
Nature and use of modern fungicides. Minneapolis, Burgess, 1961. iii,308p, illus, tables. $6.

B Handbook for students, research workers, advisory officers, and commercial growers. Spiral binding.

WILSIE, C. P. 488
Crop adaptation and distribution. San Francisco, London, Freeman, [1962]. viii,448p, illus, tables, diagrs, bibliog. $9; 64*s*. *Series of books in agricultural science.*

B Commendable attempt to integrate genetical, physiological, and meteorological studies in relation to distribution and ecology of selected world crops.

66 Chemical Technology

AKROYD, T. N. W. 489
Concrete: properties and manufacture. Oxford, London, Pergamon P, 1962. ix,336p, illus, tables, diagrs, bibliog. 50*s*.

B

BRITISH SUGAR CORPORATION 490
Home grown sugar: the rise and development of an industry. The Corporation, 1961. vii,56p, illus. 3*s* 6*d*.

B Brief but authoritative description of history, status, and performance of the industry.

BURKE, J. E. *ed.* 491
Progress in ceramic science; vol. 2. Oxford, NY [etc], Pergamon P, 1962. vii, 245p, plates, tables, diagrs, bibliog. 80*s*; $12.

C Authoritative and well documented reviews by American specialists on dislocation etch pits in non-metallic crystals, catalyzed crystallization of glass, radiation damage, and thermal conductivity of ceramic dielectrics.

COFFINBERRY, A. S. *and* MINER, W. N. *eds* 492
The metal plutonium. Chicago (Ill), Chicago UP, 1961. 446p, illus. $9.50.

C Historical review, plutonium metallurgy, and plutonium in nuclear reactors.

493
CONFERENCE on energy requirements in the iron and steel industry, held at the Hotel Majestic, Harrogate, on 24th–25th June 1959. British Iron and Steel Research Association, [1962]. 105p, tables, diagrs, bibliog. 20*s*.

C Consideration of long-term requirements of the industry in relation to establishment of new techniques, future availability of fuels, and areas in which development is required.

CORNISH, D. C. 494
Mechanism of glass polishing: a history and bibliography. Chislehurst (Surrey), British Scientific Instrument Research Association, 1961. [5],70p, bibliog. 2 *gns. BSIRA research report R 267.*

A History of theories of glass polishing and detailed bibliography of 279 items.

DIAMANT, R. M. E. 495
Applied chemistry for engineers. Pitman, 1962. viii,300p, tables, diagrs, bibliog. 30*s*.

B Provides material adequate for Dip. Tech. or HNC.

FATT, I. *and* TASHIMA, M. 496
Alkali metal dispersions. Princeton (NJ), London [etc], Van Nostrand, [1962]. x,228p, illus, tables, diagrs, bibliog. $7.50; 38*s*. 6*d*

B–C Important collection of detailed practical methods for production and use of alkali metal dispersions, not previously available except in scattered and often inaccessible sources.

HUME-ROTHERY, W. *and* RAYNOR, G. V. 497
Structure of metals and alloys. 4th ed. Institute of Metals, 1962. viii,380p, plates, tables, diagrs, bibliog. 50*s*.

B Classic text dealing with atomic and electronic principles related to structure of metals and alloys, rewritten to include recent advances.

LYCHAGIN, A. S. 498
Open hearth furnace design, tr. [from the Russian] by L. C. Ronson in collaboration with A. G. Knapton. Butterworths in association with Department of Scientific and Industrial Research, 1962. ix,246p, tables, diagrs, bibliog. 100*s*.

C Russian steel expansion is still achieved mainly through use of large open hearth furnaces, so this book on design and construction has special significance.

PARRY, J. W. 499
Spices: their morphology, histology and chemistry. NY, Chemical Publishing Co; London, Food Trade P, 1962. 226p, illus. $8.75; 70*s*.

B Short reference book on structure and composition of spices, intended to help with microscopical examination and to interest students of plant histology.

500
PROGRESS in materials science (incorporating *Progress in metal physics*, ed. by B. V. Chalmers); vol. 10, no. 2, mechanisms of growth of metal single crystals from the melt, by D. T. J. Hurle. Oxford, NY [etc], Pergamon P, [1962]. [3], 79–147p, plates, table, diagrs, bibliog. 21*s*; $3.50.

C Critical review of recent work, discussing mainly the morphology of the solid-liquid interface, preferred growth directions, and lattice defects produced during growth.

501
RECENT advances in food science: papers read at the residential summer course, Glasgow, September 1960, ed. by J. Hawthorn and J. M. Leitch. Butterworths, 1962. Plates, tables, diagrs, bibliog. 2v. 70*s* each.

B–C Vol. 1, commodities. xv,284,xvip. Five introductory papers, thirteen on animal foods, six on vegetable foods. Vol. 2, processing. xv,317p. Eight papers on dehydration, twelve on sterilization and refrigeration, seven on other processes, and three supplementary.

RUDGE, A. J. 502
Manufacture and use of flourine and its compounds. London, NY [etc], OUP under the auspices of Imperial Chemical Industries, 1962. xiii,87p, plates, tables, diagrs, bibliog. 10*s* 6*d*.

A–B Introduction to industrial chemistry of anhydrous hydrofluoric acid, of flourine, and of their inorganic and organic derivatives, with special regard to modern manufacture.

67/68 Manufactures

DUXBURY, V. *and* WRAY, G. R. *eds* 503
Modern developments in weaving machinery: a symposium. Manchester, London, Columbine P, 1962. xi,184p, illus, tables, diagrs, bibliog. 27*s* 6*d*.

B Based on lectures at Manchester College of Science and Technology 1960–1. Useful survey of modern developments, exemplified by particular looms.

FINDLAY, W. P. K. 504
Preservation of timber. Black, 1962. xiii,162p, plates, tables, diagrs, bibliog. 25*s*.

A Authoritative work dealing with natural durability of wood, pests which attack it, evaluation of preservatives, and applications of preservative-treated timber.

NOURRY, A. *ed.* 505
Reclaimed rubber: its development, applications and future. Maclaren for Association of British Reclaimed Rubber Manufacturers, 1962. ix,116p, tables, diagrs, bibliog. 25*s*.

C Record of a symposium, reviewing comprehensively and authoritatively development, theory, and practice of rubber reclaiming industry.

69 Building Industry

ORCHARD, D. F. 506
Concrete technology; vol. 2, practice. London, Contractors Record; NY, Wiley, 1962. 463p, illus, tables, diagrs, bibliog. 3 *gns*. *Concrete library*.

C Valuable study of testing and uses of concrete materials. A second edition of vol. 1, properties, has now been published.

Publishers

THE FOLLOWING ABBREVIATIONS ARE USED IN ASLIB BOOK LIST

A & U	Allen & Unwin
B & S	Bailey & Swinfen
C & H	Chapman & Hall
CUP	Cambridge University Press
EUP	English Universities Press
HMSO	Her Majesty's Stationery Office
McG-H	McGraw-Hill
O & B	Oliver & Boyd
OUP	Oxford University Press
R & KP	Routledge & Kegan Paul
T & H	Thames & Hudson
ULP	University of London Press

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August 1962

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5 MATHEMATICAL AND NATURAL SCIENCES

CROMBIE, A. C. *and* HOSKIN, M. A. *eds* 507
History of science: an annual review of literature, research and teaching; vol. 1, 1962. Cambridge, Heffer, [1962]. vii,133p, bibliog. 30*s*.

C New medium for discussion of problems and reports on work in progress.

NEWTON, I. 508
Unpublished scientific papers of Isaac Newton: a selection from the Portsmouth Collection in the University Library, Cambridge, chosen, ed., and tr. by A. R. Hall and M. B. Hall. Cambridge, CUP, 1962. xxi,416p, plates, diagrs, bibliog. 60*s*.

B Chosen primarily to illustrate Newton's ideas on the nature of matter.

51 Mathematics

DITKIN, V. A. *and* PRUDNIKOV, A. P. 509
Operational calculus in two variables and its applications, tr. [from the Russian], by D. M. G. Wishart. Oxford, NY [etc], Pergamon P, 1962. x,167p, tables, diagrs, bibliog. 50*s*; $8.50. *International series of monographs on pure and applied mathematics, vol. 24.*

C Concise account of theory and some applications in pure mathematics, with eighty pages of formulae. Published Moscow 1958. Typewriter script.

JEFFREYS, H. 510
Asymptotic approximations. Oxford, Clarendon P, 1962. [5],144p, diagrs, bibliog. 30*s*.

C Introduction proving main theorems on asymptotic series, explaining method of steepest descents, and discussing applications of the technique.

MINORSKY, N. 511
Nonlinear oscillations. Princeton (NJ), London [etc], Van Nostrand, [1962]. xviii,714p, diagrs. $16.75; 107*s*.

C Mathematical study of methods for solving practical problems involving nonlinear differential equations. Embraces qualitative and quantitative methods, nearly linear systems, and relaxation oscillations. Emphasis on Russian work.

SAATY, T. L. 512
Elements of queueing theory. NY, London [etc], McG-H, 1961 [i.e. Apr. 1962]. xv,423p, tables, diagrs, bibliog. $11.50; 89*s*.

B Expansion of authoritative original journal papers.

SEIDENBERG, A. 513
Lectures in projective geometry. Princeton (NJ), London [etc], Van Nostrand, [1962]. x,230p, diagrs, bibliog. $6.50; 51*s*. *University series in undergraduate mathematics.*

B Gives both an axiomatic and an algebraic treatment of fundamentals.

WILKS, S. S. 514
Mathematical statistics. NY, London, Wiley, 1962. xvi,644p, diagrs, bibliog. $15; 113*s*.

C Long-awaited fully developed text by leading American statistician.

52 Astronomy. Surveying. Geodesy

BEER, A. *ed.* 515
Vistas in astronomy; vol. 5, astronomical history, celestial mechanics, geophysics, theoretical astronomy, stellar dynamics, astrophysics. Oxford, NY [etc], Pergamon P, 1962. [5],230p, tables, diagrs, bibliog. 4 *gns*; $12.50.

C Articles by international authorities, including comprehensive list, with quotations from sources, of ancient and medieval Chinese observations of comets and novae.

INTERNATIONAL ASTRONOMICAL UNION 516
Transactions of the International Astronomical Union; vol.11A – reports: reports on astronomy, ed. by D. H. Sadler. London, NY, Academic P, 1962. viii,579p, tables, bibliog. 80*s*; $11.50.

C Reports of commissions and sub-commissions of the Union presented to General Assembly August 1961. Authoritative record of present state of astronomy. Some French.

KOPAL, Z. *ed.* 517
Physics and astronomy of the moon. NY, London, Academic P, 1962. xv,538p, illus, tables, diagrs, bibliog. $16.50; 118*s*.

C Compendium of information and hypotheses concerning detailed motion, topography, physical properties, and origin and history of the moon, by international team of experts.

53 Physics and Mechanics

CONFERENCE ON MAGNETISM AND MAGNETIC MATERIALS 518
Proceedings of the seventh conference . . . , originally published as a supplement to the *Journal of Applied Physics*, vol. 33, 1962, ed. by J. A. Osborn. NY, Plenum P in cooperation with the American Institute of Physics, 1962. viii,1019–1394p, illus, tables, diagrs. $14.

C Records recent developments in study of ferromagnetic and superconducting materials, magnetic memories and devices, and production of high magnetic fields.

519
FLUCTUATION, relaxation and resonance in magnetic systems: Scottish universities' summer school 1961, ed. by D. ter Haar. Edinburgh, London, O & B, 1962. viii,320p, tables, diagrs, bibliog. 3 *gns*.

C Recent theoretical and experimental work on stochastic processes in physics, with particular reference to problems arising from study of nuclear magnetic resonance.

HAMERMESH, M. 520
Group theory and its application to physical problems. Reading (Mass), Addison-Wesley; London, Paris, Pergamon P, 1962. xv,509p, tables, diagrs, bibliog. $15; 5 *gns*. *Addison-Wesley series in physics*.

C Applicable to practical study of crystallography, solid state physics, atomic and nuclear spectra, and fundamental particle physics. Postgraduate text or reference.

ITALIAN PHYSICAL SOCIETY 521
Ergodic theories: proceedings of the international school of physics 'Enrico Fermi'; XIV course, ed. by P. Caldirola. Varenna on Lake Como, Villa Monastero, May 23–May 31, 1960. NY, London, Academic P, [1962]. xi,241p, plate, diagrs, bibliog. $7.50; 60*s*.

C Detailed study of foundations and recent developments of relation between time and phase averages in classical statistical mechanics and quantum mechanics.

JACKSON, L. C. 522
Low temperature physics. 5th ed. London, Methuen; NY, Wiley, 1962. vii,158p, tables, diagrs, bibliog. 18*s*. *Methuen's monographs on physical subjects*.

A Clear, concise account of most of subject, including in particular all the latest determinations of the physical properties of helium-3. Previous edition 1955.

523
PROGRESS in aeronautical sciences; vol. 2, boundary layer problems, ed. by A. Ferri, D. Küchemann, L. H. G. Sterne. Oxford, NY [etc], Pergamon P, 1962. vii,289p, tables, diagrs, bibliog. 90*s*; $14.

C Turbulent boundary layers in incompressible flow dealt with by J. C. Rotta and boundary layers in three dimensions reviewed by J. C. Cooke and M. G. Hall. Valuable to advanced students and research workers in particular.

537 *Electricity*

524
PROGRESS in semiconductors; vol. 6, ed. by A. F. Gibson, R. E. Burgess, F. A. Kröger, Heywood, 1962. vii,322p, plates, tables, diagrs, bibliog. 65*s*.

C Practical and theoretical aspects of plastic deformation, properties of Te, nuclear and electron magnetic resonance, galvanomagnetic effects in strong fields, multilayer switching devices, and absorption and reflection spectra associated with excitons. Authoritative condensed reviews of recent work.

TAUC, J. 525
Photo and thermoelectric effects in semiconductors, tr. [from the Czech] by M. Laner. Oxford, NY [etc], Pergamon P, 1962. xi,248p, tables, diagrs, bibliog. 60*s*; $10. *International series of monographs on semiconductors, vol. 2.*

C Rather condensed survey of theories and physical concepts arising in study of transport, photovoltaic, thermoelectric, photoelectromagnetic, and thermogalvanomagnetic effects in a range of semiconducting materials and devices. Wide coverage and good bibliography.

539.1 *Nuclear Physics*

BACON, G. E. 526
Neutron diffraction. 2nd ed. Oxford, Clarendon P, 1962. xii,426p, plates, tables, diagrs, bibliog. 55*s*. *Monographs on the physics and chemistry of materials.*

C Up-to-date revision of introduction to experimental aspects of neutron scattering and diffraction, with applications to location of light atoms, molecular structure, magnetic scattering, polarization, and small-angle scattering. Previous edition 1955.

REED, R. I. 527
Ion production by electron impact. London, NY, Academic P, 1962. xii,242p, plate, tables, diagrs, bibliog. 45*s*; $7.

B–C Description of different types of mass spectrometer and discussion of thermochemistry underlying determination of ionization potentials of molecules and free radicals, and of bond dissociation energies. Fragmentations of inorganic and organic compounds and deductions to be drawn from these are described.

SYMPOSIUM ON NUCLEAR INSTRUMENTS 528
Proceedings of the symposium . . ., Harwell, September 1961, ed. by J. B. Birks. Heywood, 1962. [7],252p, illus, tables, diagrs, bibliog. 60*s*.

C Recent developments in image intensifiers, scintillation and semiconducting detectors, spark chambers, data storage and processing in nuclear experiments, the sector-focused cyclotron, etc.; by physicists from prominent nuclear laboratories.

54 Chemistry

ALBERT, A. *and* SERJEANT, E. P. 529
Ionization constants of acids and bases: a laboratory manual. London, Methuen; NY, Wiley, 1962. xii,179p, tables, diagrs. 21*s*.

B Critical discussion of experimental techniques and calculations required for determination of ionization constants, with documented list of constants of 400 acids and bases.

BRADLEY, J. M. 530
Shock waves in chemistry and physics. London, Methuen; NY, Wiley, 1962. xiv,370p, plates, tables, diagrs, bibliog. 3 *gns*.

C Shock tube techniques and instrumentation and their application to the study of physical and chemical effects of shock waves; for research workers in particular.

BURCHFIELD, H. P. *and* STORRS, E. E. 531
Biochemical applications of gas chromatography. NY, London, Academic P, 1962. xviii,680p, illus, tables, diagrs, bibliog. $22; 157*s* 6*d*.

C Comprehensive reference presenting theoretical basis, experimental and technological aspects, and wide range of applications of method. Fully documented and indexed.

CAVEN, R. M. 532
Quantitative chemical analysis and inorganic preparations. 2nd ed. rev. by A. B. Crawford and W. A. Alexander. London, Glasgow, Blackie, 1962. [6],428p, plate, tables, diagrs. 35*s*.

B Retains teaching-manual approach of 1923 edition, but much revised and including more modern concepts and experiments.

DE LA MARE, P. B. D. *and* KLYNE, W., *eds* 533
Progress in stereochemistry, 3. Butterworths, 1962. viii,368p, tables, diagrs, bibliog. 75*s*. *Progress series.*

B–C Well-documented surveys of topics in organic, inorganic, and biochemistry which have been the subject of much recent work and progress.

FURMAN, N. H. *ed.* 534
Standard methods of chemical analysis; vol. 1, the elements. 6th ed. Princeton (NJ), London [etc], Van Nostrand, 1962. xix,1401p, illus, tables, diagrs. $25; 9 *gns*.

C This edition of a widely used practical reference book now appears in three volumes; the first deals with the detection, separation, and determination of each of the elements.

GEFTER, YE. L. 535
Organophosphorus monomers and polymers, tr. from the Russian by J. Burdon. Oxford, NY [etc], Pergamon P, 1962. vii,302p, tables, diagrs, bibliog. 70*s*; $12.50. *International series of monographs on organic chemistry, vol. 6.*

B–C Preparation of unsaturated monomers, their properties, polymerization, and properties of the polymers are described and tabulated. Technological potentialities are considered. More than 800 references (mainly Russian) up to 1958.

GEISSMAN, T. A. *ed.* 536
Chemistry of flavonoid compounds. Oxford [etc], Pergamon P; [NY, Macmillan (NY)], 1962. viii,666p, tables, diagrs, bibliog. 150*s*; $9.50.

C First comprehensive treatise, covering occurrence, isolation, chemistry, stereochemistry, and biosynthesis and including genetic and various economic aspects.

JIRGENSONS, B. 537
Natural organic macromolecules. Oxford, NY [etc], Pergamon P, 1962. x,464p, illus, tables, diagrs, bibliog. 3 *gns*; $15.

B Describes briefly special methods used in this field, different types of natural macromolecules, and chemical nature of macromolecular structures of micro-organisms, cytological structures, and special cells.

JØGENSEN, C. K. 538
Absorption spectra and chemical bonding in complexes. Oxford, NY, Pergamon P, 1962. xii,352p, tables, diagrs, bibliog. 70*s*; $10.

C Detailed account of recent developments in the information on chemical bonding which can be derived from ultra-violet and visible absorption spectra.

SHATENSHTEIN, A. I. 539
Isotopic exchange and the replacement of hydrogen in organic compounds, tr. from the Russian by C. N. Turton and T. T. Turton. NY, Consultants Bureaux, 1962. xvi,308p, tables, diagrs, bibliog. $19.50.

B–C Russian text of 1960, with full documentation to 1961. Much modern physical organic chemistry is included, especially on acid-base catalysis of hydrogen exchange, acid and basic behaviour of hydrocarbons, and mechanism of acid-base interactions and hydrogen replacement reactions. No index. Typewriter script.

SYMPOSIUM ON MACROMOLECULAR CHEMISTRY 540
Macromolecular chemistry: special lectures presented at the international symposium . . . held in Montreal, Canada, 27th July to 1st August, 1961, [by the] International Union of Pure and Applied Chemistry, Physical Chemistry Section, Commission on Macromolecules. Butterworths, 1962. [4],199–540p, illus, tables, diagrs, bibliog. 3 *gns*.

B–C Papers on properties of polymers, free radical and ionically initiated polymerization, and chemistry of high polymers of recent importance. No index. Reprinted from *Pure and Applied Chemistry*, vol. 4, nos 2–4.

WEBSTER, R. 541
Gems: their sources, descriptions and identification; vols 1 and 2. Butterworths, 1962. xii,464; vii,465–792p, illus, plates, tables, diagrs, bibliog. 2v. 190*s*.

A–B Most comprehensive and up-to-date work available. Complete identification tables.

6 APPLIED SCIENCES

62 Engineering and Technology

FISHER, W. E. 542
Engineering science and calculations: for craftsmen in engineering industries; vol. 3. EUP, 1962. xii,529–858,xiii–xxiip, tables, diagrs. 21*s*. *General technical series*.

B Last volume of complete and graduated course for those studying for City & Guilds examinations and for practising engineers.

WISE, E. H. 543
General industrial science: a basic course in engineering and ancillary sciences for students entering all branches of industry, with a foreword by P. D. Ritchie. London, Glasgow, Blackie, 1962. xii,454p, plates, tables, diagrs, bibliog. 25*s* (paper); 40*s* (board).

A 'A little about a lot' for student technicians working for National Certificates or examinations of the City & Guilds of London Institute.

621 *Mechanical and Electrical Engineering*

JUDGE, A. W. 544
Modern transmission systems. C & H, 1962. 430p, illus, tables, diagrs. 25*s*. *Motor manuals: a series for all motor owners and users, vol. 5.*

A Explains all important British, American, and Continental motorcar transmission systems.

MACMILLAN, R. H. *ed.* 545
Non-linear control systems analysis. Oxford, NY [etc], Pergamon P, 1962. xvi,174p, tables, diagrs, bibliog. 17*s* 6*d*; $3.50 (paper). 30*s*; $5 (hard). *Commonwealth and international library of science, technology and engineering. Mechanical engineering division, vol. 1.*

C General survey of methods for study of nonlinear systems with some emphasis upon the phase-plane method, the so-called describing function, and other graphical techniques.

621.3 *Electrical Engineering*

JONES, C. 546
Introduction to advanced electrical engineering. EUP, 1962. x,452p, diagrs, bibliog. 35*s*. *Higher technical series.*

B Covers electric, magnetic, and electromagnetic fields, electron ballistics, circuit theory, measurements, and control systems. Detailed step-by-step treatment.

547
PROGRESS in dielectrics; vol. 4, gen. ed. J. B. Birks, American ed. J. Hart. Heywood, 1962. vii,309p, plates, tables, diagrs, bibliog. 3 *gns.*

C This volume is devoted to electrical properties, in particular UHF and microwaves.

REYNER, J. H. *and* REYNER, P. J. 548
Radio communication. Pitman, 1962. xii,644p, plates, tables, diagrs. 55*s*.

B Complete revision of *Modern radio communication.* Students' text of approximately HNC level and readable background volume for reference.

RICHARDSON, R. C. H. 549
Commissioning of electrical plant and associated problems. 4th ed. C & H, 1962. xv,452p, tables, diagrs, bibliog. 65*s*. *Series of monographs on electrical engineering, vol. 5.*

C Covers alternators, ac motors, transformers, dc plant, and circuit breakers. Chiefly for plant and system engineers. Previous edition 1955.

SAY, M. G. 550
Electrical engineering design manual, 3rd ed. C & H, 1962. xiv,318p, tables, diagrs, bibliog. 28*s*.

B Introduction to physical principles underlying machine design, with calculations and graphical techniques. Includes transmission-line diagrams, harmonic analysis, and field plotting. Previous edition (1950) by M. G. Say and S. Parker Smith.

SKILLING, H. H. 551
Electromechanics: a first course in electromechanical energy conversion. NY, London, Wiley, 1962. xv,475p, illus, diagrs, bibliog. $7.75; 62*s*.

B Principles illustrated by examples of machines and devices. Some stress on system concept.

628 *Public Health Engineering*

CSA SPECIALIST MEETING ON WATER TREATMENT 552
[Proceedings], Pretoria 12–17 IX 1960, Scientific Council for Africa South of the Sahara. Commission for Technical Co-operation in Africa South of the Sahara, [1961]. [2],332p, illus, tables, diagrs, bibliog. 25*s*. *CCTA publication no. 64.*

C Demineralization of water, hydrobiology of surface water supplies, control of water pollution, and treatment of sewage and trade effluents. Some papers in French.

ILLUMINATING ENGINEERING SOCIETY 553
Lighting of building sites and works of engineering construction. The Society, 1962. iv,25p, 7*s* 6*d*. *Technical report no. 3.*

B Recommended standards of lighting working spaces inside and outside buildings under construction, including emergency lighting.

554
TOWN WASTE put to use: a symposium on modern methods held at the Borough Polytechnic, Borough Road, London SE1, 4 November 1960, ed. by P. Wix. Cleaver-Hume P, 1961. 147p, tables, diagrs. 35*s*.

A–B Authors emphasize necessity of effective prior survey of problem, indicating at same time that waste disposal is a costly and constantly changing business.

65 Business Techniques. Management

CONFERENCE OF PRINTING RESEARCH INSTITUTES 555
Problems in high speed printing: the influence of printing speed and pressure on print quality; proceedings of the sixth international conference . . . held at Elsinore, Denmark, 1961, ed. by W. H. Banks. Oxford, NY [etc], Pergamon P, 1962. xii,288p, illus, tables, diagrs, bibliog. 90*s*; $15. *Advances in printing science and technology, vol. 2.*

B Summary of basic scientific research carried out by some of the world's leading authorities on printing technology, for physicists, engineers, and technologists.

DUCKWORTH, W. E. 556
Guide to operational research. Methuen, 1962. 145p, tables, diagrs, bibliog. 20*s*.

A Sets out basic aims of operational research, highly simplified accounts of a number of common mathematical techniques, and some ideas on how to organize such work in practice.

EDDISON, R. T. *and others* 557
Operational research in management, by R. T. Eddison, K. Pennycuick, and B. H. P. Rivett. EUP, 1962. xi,13–330p, tables, diagrs, bibliog. 25*s*. *Management science series.*

B General introduction to nature, techniques, and applications of Operational Research. Chapters on measurement of efficiency and productivity, labour wastage and turnover, and human problems.

GEARY, R. 558
Work study applied to building. The Builder, 1962. 143p, illus. 18*s* 6*d*.

B Suggestions for introducing work study into a firm and equipment and procedures needed.

HALL, A. D. 559
Methodology for systems engineering. Princeton (NJ), London [etc], Van Nostrand, [1962]. xviii,478p, illus, tables, diagrs, bibliog. 4 *gns*.

B Lucid introduction to philosophy and methods of system design, for students of the subject and workers in related scientific management fields.

66 Chemical Technology

BINSTED, R. *and others* 560
Pickle and sauce making, by R. Binsted, J. D. Devey, and J. C. Dakin. 2nd ed. Food Trade P, 1962. viii,274p, illus, tables. 50*s*.

B Incorporates many of the considerable advances in technology of pickle, sauce, and vinegar products manufacture since 1939 edition.

CARROLL-PORCZYNSKI, C. Z. 561
Advanced materials: refractory fibres, fibrous metals, composites. Guildford, Astex, 1962. 286p, illus, tables, diagrs, bibliog. 58*s* 6*d*.

C Deals principally with manufacture and application, giving information not hitherto readily available to ceramic engineers dealing with high temperature materials.

562
DEVELOPMENTS in industrial microbiology; vol. 3, proceedings of the eighteenth general meeting of the Society for Industrial Microbiology held at Lafayette, Indiana, August 27–31, 1961. NY, Plenum P for the Society, 1962. ix,398p, illus, tables, diagrs, bibliog. $13.50. *Society for Industrial Microbiology publications.*

C Account of recent work with major sections on microbiology in space exploration, preservation of oil-in-water systems, problems in water microbiology and fermentations.

GOWER, C. H. 563
Plastic paint: its uses and application, with a foreword by J. G. E. Holloway. Spon, 1962. xv,126p, plates, diagrs. 15*s*. *Spon's architectural and building series.*

A Simple much-needed manual covering materials, equipment, preparation of surfaces, mixing and application, texturing, and decorating.

564
RECENT advances in processing cereals: comprising papers (with discussions) read at a symposium organised by the Food Group, held at the Royal Society of Medicine, 1 Wimpole St, London, W.1, 14–15th September, 1961. Society of Chemical Industry, 1962. iv,199p, illus, tables, diagrs, bibliog. 40*s*. *SCI monograph no. 16.*

B–C Papers on advances in scientific knowledge of cereals; title is misleading.

SNELL, F. D. *and* SNELL, C. T. 565
Dictionary of commercial chemicals. 3rd ed. Princeton (NJ), London [etc], Van Nostrand, 1962. ix,714p, tables. $12.50; 97*s*.

D Review of properties and uses of commercial chemicals, particularly useful to chemical market researchers and others seeking concise work of reference. Previous edition 1952.

THRING, M. W. 566
Science of flames and furnaces. 2nd ed. C & H, 1962. xx,625p, plates, tables, diagrs, bibliog. 80*s*.

B–C Unique unification of basic scientific treatment with empirical technology of flame-fired furnaces. Previous edition 1952.

67/68 Manufactures

BEBB, R. H. 567
Plastics mould design; vol. 1, compression and transfer moulds. Iliffe for the Plastics Institute, 1962. vii,124p, plates, tables, diagrs. 27*s* 6*d*.

B Based on Plastics Institute monograph no. 23, *Plastics draughtsmanship*, part 3, published (for members only) 1949. Primarily for students but of use also to practising engineers.

BRITISH STANDARDS INSTITUTION 568
Methods for the determination of the colour fastness of textiles: BS 2661–86 & 3661 : 1961. The Institution, [1962]. 106p, tables, diagrs. 30*s*.

B–C Presents in revised form to conform with ISO recommendation R105 all relevant British Standards, including BS 1006 (Daylight).

681 *Precision Mechanisms*

DIJKSTRA, E. W. 569
Primer of algol 60 [tr. from the Dutch], together with report on the algorithmic language algol 60. London, NY, Academic P for Automatic Programming Information Centre, Brighton College of Technology, 1962. xi,114p, 30*s*. *APIC studies in data processing, no. 2.*

C Algol is a precise language being developed to describe computer processes; many computers will accept instructions in algol, thus avoiding the task of writing programmes in codes appropriate to specific machines.

570
VACUUM microbalance techniques; vol. 2, proceedings of the 1961 conference held at the National Bureau of Standards, Washington, DC, April 20–21, ed. by R. F. Walker with an intro. by H. S. Peiser. NY, Plenum P, 1962. xii,179p. illus, tables, diagrs, bibliog. $9.50.

B Much practical information on design, construction, and applications of microbalances.

Publishers

THE FOLLOWING ABBREVIATIONS ARE USED IN ASLIB BOOK LIST

A & U	Allen & Unwin
B & S	Bailey & Swinfen
C & H	Chapman & Hall
CUP	Cambridge University Press
EUP	English Universities Press
HMSO	Her Majesty's Stationery Office
McG-H	McGraw-Hill
O & B	Oliver & Boyd
OUP	Oxford University Press
R & KP	Routledge & Kegan Paul
T & H	Thames & Hudson
ULP	University of London Press

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001 GENERAL KNOWLEDGE

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Elements of technical report writing. NY, Harper; [London, Hamish Hamilton], [1962]. ix,208p, tables, diagrs, bibliog. $3.25; 26*s*.

A Primer for class use, emphasizing importance of designing reports as a whole but also offering adequate linguistic analysis.

007 INFORMATION. COMMUNICATION. CONTROL THEORY

PIERCE, J. R. 572
Symbols, signals and noise: the nature and process of communication. Hutchinson, 1962. xi,305p, tables, diagrs. 21*s*. *Hutchinson science library*.

C Latest theories of information and communication and such associated topics as computers and automatic control; implications for physics, cybernetics, psychology, etc.

3 SOCIAL SCIENCES

31 Statistics

KENDALL, M. G. *and* DOIG, A. G. 573
Bibliography of statistical literature 1950–1958. Edinburgh, London, O & B, 1962. xi,297p, bibliog. 3 *gns*.

D First of three volumes which will cover the periodical literature in statistical methods from the sixteenth century. 9,000 references arranged alphabetically by author.

SAVAGE, I. R. 574
Bibliography of nonparametric statistics. Cambridge (Mass), Harvard UP; [London, OUP], 1962. [6],284p, table, bibliog. $6.50; 54*s*.

D Covers century of literature in a most important field of statistical methods. Valuable introductory notes, but no subject index; each item is classified.

37 Education

GREAT BRITAIN. Ministry of Education and Scottish Education Department 575
Teaching of Russian: report of the committee appointed by the Minister of Education and the Secretary of State for Scotland in September, 1960. HMSO, [1962]. v,55p, tables. 3*s* 6*d*.

A The Annan report.

MARGULIES, S. *and* EIGEN, L. D. [*eds*] 576
Applied programed instruction. NY, London, Wiley, [1962]. ix,387p, illus, tables, diagrs, bibliog. $6.95; 53*s*.

A–B Well-organized compilation describing and illustrating current state of programmed instruction by means of actual experience and examples.

5 MATHEMATICAL AND NATURAL SCIENCES

51 Mathematics

ERDÉLYI, A. 577
Operational calculus and generalised functions. NY, Holt, 1962. 103p. $2.75. *Athena series*.

C Account of Mikusiński's operational calculus.

HEINS, M. 578
Selected topics in the classical theory of functions of a complex variable: NY, Holt, 1962. 160p. $3.50. *Athena series.*

C Up-to-date treatment.

NIDDITCH, P. H. 579
Russian reader in pure and applied mathematics. Edinburgh, London, O & B; NY, Interscience, 1962. x,166p. 10*s* 6*d*. *University mathematical texts.*

C Designed for mathematicians, useful also to students and professional translators.

TAKACS, L. 580
Introduction to the theory of queues. NY, [London], OUP, 1962. x,268p, diagrs, bibliog. $7.50; 60*s*. *University texts in the mathematical sciences.*

C Mathematical treatment containing results from author's original work.

TUCKER, H. G. 581
Introduction to probability and mathematical statistics. NY, London, Academic P, [1962]. xii,228p, tables, diagrs, bibliog. $5.75; 46*s*. *Academic Press textbooks in mathematics.*

B Lecture material from a tested course for mathematics students. Attractive presentation with exercises as essential part of study. First book in the series.

53 Physics and Mechanics

BELOV, K. P. 582
Magnetic transitions, tr. from the Russian by W. H. Furry. NY, Consultants Bureau, [1961]; [London, Heywood, 1962]. xiv,242p, tables, diagrs, bibliog. $12.50; 100*s*.

C Exhaustive treatment of behaviour of all types of magnetic material near the Curie point, giving full thermodynamic analysis of the transitions. Published Moscow 1959 and subsequently revised by author. Typewriter script.

BLAGOVESHCHESNSKY, S. N. 583
Theory of ship motions, tr. from first Russian ed. by T. and L. Strelkoff under editorship of L. Landweber. NY, Dover; London, Constable, [1962]. illus, tables, diagrs. 2v. $2; 16*s* each.

B For each type of motion the assumptions and approximations necessary to obtain a solution are explained, some discussion of the physical picture is given, and there is a worked example or a computation system. Published Leningrad 1954 and based wholly on Russian work.

GREEN, M. H. 584
International and metric units of measurement. London, Heywood; NY, Chemical Publishing Co., 1962. 116p, tables. 40*s*; $6.

D Describes changes involved by new definitions for units of measurement recently accepted as international standards, and gives fifty tables of the various measuring systems in use.

HADFIELD, D. *ed.* 585
Permanent magnets and magnetism: theory, materials, design, manufacture and applications. London, Iliffe; NY, Wiley, 1962. *12*,556p, illus, plates, tables, diagrs, bibliog. 5 *gns*.

C Much-needed authoritative reference work for physicists, engineers, and metallurgists, covering physical nature, preparation, and properties of magnetic steels, alloys, metallic and ceramic powders; permanent magnet design problems; and wide range of applications.

586
HYPERSONIC flow research: a selection of technical papers based mainly on a symposium of the American Rocket Society held at Massachusetts Institute of

Technology, Cambridge, Massachusetts, August 16–18, 1961, ed. by F. R. Riddell. NY, London, Academic P, 1962. x,758p, illus, tables, diagrs, bibliog. $10.50; 4 *gns. Progress in astronautics and rocketry, vol. 7.*

C Covers low Reynolds number flows, chemical kinetic effects, inviscid flows, and experimental techniques. Valuable review with summaries of discussion. Typewriter script.

SUMMER, W. 587
Ultra-violet and infra-red engineering. Pitman, 1962. xx,300p, plates, tables, diagrs, bibliog. 2 *gns.*

D Sources and detectors; equipment; engineering applications (deserving fuller treatment of fewer subjects); health hazards. For technologists considering use of ultra-violet or infra-red radiation in research or industry.

54 Chemistry

SYMPOSIUM ON POLYMERIZATION AND POLYCONDENSATION PROCESSES 588
Polymerization and polycondensation processes: a collection or papers based on the symposium . . ., Division of Industrial & Engineering Chemistry, 140th meeting of the American Chemical Society, Chicago, Ill., September 5–6, 1961. Washington (DC), the Society, 1962. vi,260p, illus, tables, diagrs, bibliog. *Advances in chemistry series, no. 34.*

C Papers on addition polymerization, polycondensation reactions, and commercial polymerization processes and equipment design. For academic and industrial research workers.

VAGRAMYAN, A. T. *and* PETROVA, YU. S. 589
Mechanical properties of electrolytic deposits, tr. from the Russian. NY, Consultants Bureau, 1962. xii,108p, illus, tables, diagrs, bibliog. $12.50.

C Experimental account of work directed towards an attempt to relate structure and physico-mechanical properties of metallic deposits with electrochemical conditions of deposition.

55 Geology. Meteorology

DIMBLEBY, G. W. 590
Development of British heathlands and their soils. Oxford, Clarendon P, 1962. 121p, plates, tables, diagrs, bibliog. 60*s. Oxford forestry memoirs, no. 23.*

C Important contribution to study of historical development of British heathlands, with detailed analysis of specific sites, mainly in southern England.

FLETCHER, N. H. 591
Physics of rainclouds, with an introductory chapter by P. Squires and a foreword by E. G. Bowen. Cambridge, CUP, 1962. x,386p, plates, tables, diagrs, bibliog. 65*s.*

C Special reference to basic physical principles, theories, and experimental work on the development of precipitation. Full references to original papers up to 1960.

GRIM, R. E. 592
Applied clay mineralogy. NY, London [etc], McG–H, 1962. viii,422p, illus, tables, diagrs, bibliog. $12.50; 97*s. International series in the earth sciences.*

C Covers structure and properties of clays, and their application to ceramic materials, foundry sands, soil properties, petroleum and chemical industries, and other processes.

INTER-AFRICAN CONFERENCE ON HYDROLOGY 593
[Proceedings], Nairobi 1961. Commission for Technical Co-operation in Africa South of the Sahara, [1962]. [4],585p, tables, diagrs, bibliog. 35*s. CCTA publication no. 66.*

C Covers wide field in hydrometeorology, ground water and surface water hydrology. For engineers, meteorologists, and agriculturalists concerned with water control and irrigation.

MARINE SCIENCES CONFERENCE 594
Marine sciences instrumentation; vol. 1, a collection of instrumentation papers presented at the marine sciences conference held September 11–15, 1961, at Woods Hole, Mass., sponsored by the Instrument Society of America and the American Society of Limnology and Oceanography *and* papers from the marine sciences sessions of the 1961 Instrument Society of America Symposia held at Toronto and Los Angeles, ed. by R. D. Gaul and others. NY, Plenum P, [1962]. [7],354p, illus, tables, diagrs, bibliog. $12.50 (domestic); $14 (foreign). *Instrument Society of America publications.*

C Proposals and progress in measuring and experimental techniques for oceanography, by advanced project engineers and instrumentalists. Typewriter script.

RAST, N. *ed.* 595
Applied geophysics USSR, [tr. from the Russian]. Oxford, NY [etc], Pergamon P, 1962. 429p, illus, tables, diagrs, bibliog. 100*s*; $15.

C Selected papers from Russian journal *Applied Geophysics*, vols 18 and 20. New details of oil explorations by geophysical methods.

57 Anthropological and Biological Sciences

AUERBACH, C. 596
Mutation: an introduction to research on mutagenesis; part 1, methods. Edinburgh, London, O & B, 1962. xii,176p, plates, tables, diagrs, bibliog. 12*s* 6*d*.

B Explanation of basic methods of research on genetical and chromosomal mutations in drosophila, other animals, flowering plants, and micro-organisms.

NOBLE, E. R. *and* NOBLE, G. A. 597
Animal parasitology laboratory manual. Kimpton, 1962. 120p, illus, diagrs. 26*s*.

B Manual on methods from which instructors can select those best fitted to their types of courses. Originally published Philadelphia, Lea & Febiger, 1962.

58 Botany

CLAPHAM, A. R. *and others* 598
Flora of the British Isles, by A. R. Clapham, T. G. Tutin, and E. F. Warburg. 2nd ed. Cambridge, CUP, 1962. xlviii,1269p, illus. 70*s*.

C Expanded version of standard reference first published 1952. Increased page size. Keys modified and coverage revised according to recently established distribution.

LIND, E. M. *and* TALLANTIRE, A. C. 599
Some common flowering plants of Uganda. OUP, 1962. [4],257p, illus, plates, bibliog. 25*s* (boards); 15*s* (paper).

A–B Describes, with good keys to families and many genera, 500 mainly herbaceous species (excluding grasses). Index of some 900 vernacular names in eight African languages.

PERRING, F. H. *and* WALTERS, S. M. *eds* 600
Atlas of the British flora: including distribution maps of 1,700 flowering plants and ferns and twelve transparent overlays of climate, topography and geology. Nelson, for Botanical Society of the British Isles, 1962. xxiv,432p, 5 *gns*. *Botanical Society of the British Isles publications.*

D Four maps per quarto page. Introduction gives brief history of mapping of plant distribution, outline of method used in preparing the maps, and guidance on their interpretation.

WIGGINS, I. L. *and* THOMAS, J. H. 601
Flora of the Alaskan arctic slope. Toronto, Toronto UP; [London, OUP], [1962]. vii,425p, plate, tables, bibliog. $9.50; 76*s*. *Arctic Institute of North America special publication no. 4.*

B–C Descriptive guide to edaphic, climatological, and biological factors of the Brooks Range and the tundra between this range and the Arctic Ocean, and to the flowering plants and ferns of this area.

59 Zoology

GHAURI, M. S. K. 602
Morphology and taxonomy of male scale insects (Homoptera: Coccoidea). British Museum (Natural History), 1962. vii,221p, illus. tables, bibliog. 80*s*.

C

MANI, M. S. 603
Introduction to high altitude entomology: insect life above the timber-line in the north-west Himalaya. Methuen, 1962. xix,302p, illus, plates, tables, diagrs, 2 *gns*.

B First book on this subject.

SHEPHERD, A. M. 604
Emergence of larvae from cysts in the genus *Heterodera*: a review of factors affecting hatching. Farnham Royal (Bucks), Commonwealth Agricultural Bureaux, 1962. viii,90p, illus, tables, diagrs, bibliog. 20*s*. *Commonwealth Bureau of Helminthology, technical communication no. 32.*

C Much-needed authoritative review, with comprehensive bibliography.

6 APPLIED SCIENCES

62 Engineering and Technology

KLINOV, I. YA. *ed.* 605
Corrosion and protection of materials used in industrial equipment, tr. from the Russian. NY, Consultants Bureau, 1962. x,228p, illus, tables, diagrs, bibliog. $15.

C Laboratory investigations into corrosion behaviour of metals and non-metals, ranging from theoretical work to practical applications. Varying standard and value.

621 *Mechanical and Electrical Engineering*

621.039 *NUCLEAR ENGINEERING*

CENTRAL ELECTRICITY GENERATING BOARD. Berkeley Nuclear Laboratories 606
Properties of reactor materials and the effects of radiation damage: proceedings of the international conference held at Berkeley Castle, Gloucestershire, England from 30th May to 2nd June, 1961, ed. by D. J. Littler, Butterworths, 1962. xv,562p, illus, tables, diagrs, bibliog. 6 *gns*.

C Radiation damage, techniques for observing lattice defects, radiation hardening, fracture, corrosion behaviour, and dimensional stability of reactor materials under irradiation and thermal cycling.

KAUFMAN, A. R. *ed.* 607
Nuclear reactor fuel elements: metallurgy and fabrication. NY, London, Interscience, 1962. xii,739p, illus, tables, diagrs, bibliog. $27; 203*s*.

C Sponsored by United States Atomic Energy Commission. Primarily for metallurgists and fabrication specialists.

621.3 *Electrical Engineering*

ALVAREZ, E. C. 608
Using the slide rule in electronic technology. NY, Rider, [1962]. viii, 109p, illus, diagrs. $2.50.

A Detailed description of use of slide rule for all electrical circuit mathematics. Clear circuit diagrams and pictures of slide rule settings. Problems with answers.

609
BASIC radar; a basic training manual developed by a special electronics training investigation team of the Royal Electrical & Mechanical Engineers working in conjunction with Technical Training Command of the Royal Air Force and Decca Radar Limited; part 1. Technical P, [1962]. [6],94p, illus, tables, diagrs. 16*s*. *Common core books.*

B First of three parts covering military and civilian radar, designed for training recruits and apprentices to operator-repairman level.

ELECTRONIC TECHNICIAN, *ed.* 610
Useful electronic shop hints, ed. by *Electronic Technician* magazine staff. NY, Rider, [1962]. VII,103p, illus, diagrs. $1.95.

A Frequently ingenious hints for coping with difficult situations, for servicemen or practising amateurs; terms used and sizes quoted are American.

HOLMES, J. F. 611
Communications dictionary: a compilation of the terms used in electronic communications and data processing. NY, Rider, [1962]. vi,88p, $1.50.

D Short definitions of technical terms and abbreviations used in the United States. Chiefly for non-technical personnel concerned.

LYNCH, W. A. *and* TRUXAL, J. G. 612
Principles of electronic instrumentation. NY, London [etc], McG–H, 1962. xv,159,447–828p, tables, diagrs. $7.50; 58*s*. *Electrical and electronic engineering series. Brooklyn Polytechnic Institute publications.*

B Continuation of the authors' *Introductory system analysis.*

POLLACK, H. 613
Photoelectric control. NY, Rider, [1962]. viii,136p, illus, tables, diagrs. $3.50. *Industrial electronics applications series.*

B Describes construction and operation of vacuum and semiconductor photoelectric devices, giving many circuits; most of these carry component value. Well presented.

ROMANOWITZ, H. A. 614
Fundamentals of semiconductors and tube electronics. NY, London, Wiley, [1962]. xii,620p, illus, tables, diagrs. $7.25; 62*s*.

B Introductory student text on combined physics and engineering basis, from circuit theory to applications of electronic devices. Questions, problems, and answers.

621.4 *Internal Combustion Engines*

LEWIS, A. D. 615
Gas power dynamics. Princeton (NJ), London [etc], Van Nostrand, [1962]. viii,535p, tables, diagrs, bibliog. 76*s*.

B Gas dynamic and thermodynamic processes associated with operation and performance of gas turbine, ramjet, thermal rocket, and piston engines. For advanced undergraduates.

621.7 *Workshop Practice*

GARSIDE, J. E. 616

Foundry calculations, drawing, and physics: a handbook for moulders, patternmakers, and students of foundry practice, based on the earlier work by L. Booth. Griffin, 1962. vii,192p, tables, diagrs. 21*s*. *Griffin's industrial textbooks*.

A Based on *Foundry calculations and drawing*, 1936. Simplified presentation of relevant mathematics, engineering drawing, and physical science.

JOHNSON, W. *and* KUDO, H. 617

Mechanics of metal extrusion. Manchester, Manchester UP, [1962]. xiv,226p, plates, diagrs, bibliog. 2 *gns*.

C Mathematical and experimental treatment for advanced students and those concerned with improvement and control of extrusion practice.

618

PROGRESS in powder metallurgy; vol. 16, proceedings of the sixteenth annual meeting of the Metal Powder Industries Federation, held at the Drake Hotel, Chicago, Illinois, April 25–27, 1960. NY, the Federation, [©1960]. 215p, illus, tables, diagrs, bibliog. $10.

B Recent advances, in topics from particle size distribution and non-destructive testing of cemented carbides to superalloys for aircraft.

624 *Structural Engineering*

JUMIKIS, A. R. 619

Soil mechanics. Princeton (NJ), London [etc], Van Nostrand, [1962]. xix,791p, illus, tables, diagrs, bibliog. 100*s*. *University series in civil engineering and applied mechanics*.

B Comprehensive university text on fundamentals, with worked examples, problems for study, bibliographies, and good indexes. For teaching rather than for reference.

NIKOLAEV, B. A. 620

Pile driving by electroosmosis, tr. from the Russian. NY, Consultants Bureau, 1962. [4],62p, illus, tables, diagrs, bibliog. $12.50.

C Experimental and theoretical study of factors governing use of electro-osmosis for reducing driving resistance of piles. Most comprehensive work available. Published Moscow 1960. Typewriter script.

WILBY, C. B. *and* BELLAMY, N. W. 621

Elastic analysis of shells by electronic analogy. Edward Arnold, 1962. viii,56p, tables, diagrs, bibliog. 30*s*.

B–C Method of designing shell structures using 'standard' equations but employing an analogue instead of a digital computer.

629.1 *Transport Engineering*

O'BRIEN, T. P. 622

Design of marine screw propellers. Hutchinson, 1962. 397p, plates, tables, diagrs, bibliog. 6 *gns*.

B–C First new book on subject for about forty years.

THERMOTANK LTD 623

Marine air conditioning heating and ventilation: a brief summary and comparison of available systems with basic specifications. Distributed Oxford, NY [etc], Pergamon P, [1962]. 117p, illus, tables, diagrs. 50*s*.

B Survey of systems and factors involved in choice, for those preparing a specification.

63 Agriculture. Forestry. Livestock. Fisheries

ALLERTON, F. W. 624
Ring culture; with a foreword by S. M. Gault and preface by R. G. Elms. Faber, 1962. 115p, plates, diagrs. 12*s* 6*d*.

B Written in plain language by an authority. Methods described are particularly suitable for amateurs without the commercial grower's facilities for sterilizing soil etc.

COOK, R. L. 625
Soil management for conservation and production. NY, London, Wiley, [1962]. xii,527p, illus, plates, tables, diagrs. $9.95; 75*s*.

B Sets forth in simple language principles and practices that lead to practicable and profitable use of land.

FREAR, D. E. H. *comp.* 626
Pesticide handbook 1962. Pennsylvania State College, 1962. 304p. $2.50. *College science publications.*

D Lists 9,444 commercial pesticide products; 5 per cent more than in 1961.

INTER-AFRICAN SOILS CONFERENCE 627
Proceedings of the third . . . conference, Dalaba, 2–11 November 1959. Commission for Technical Co-operation in Africa South of the Sahara, [1961]. [11],571;[3],575–926p, tables, diagrs, bibliog. 2v. 50*s*. *CCTA publication no. 50.*

C Recommendations and 109 papers on genesis, classification, and fertility of African soils; for soil scientists and agriculturalists.

JOHANSSON, I. 628
Genetic aspects of dairy cattle breeding. Edinburgh, London, O & B, 1962. xii,259p, illus, tables, diagrs, bibliog. 40*s*.

C Well-documented critical review of application of genetics to improvement of economic characters of dairy cattle. Originally published by Illinois University Press, 1961.

LAMOND, D. R. 629
Dairy cattle husbandry. Sydney, London, Angus & Robertson, 1961. 300p, illus, tables, diagrs. 36*s*.

B Essential for those who want to make dairy farming a real business. Comprehensive coverage, reflecting Australian practice.

MCMASTER, D. N. 630
Subsistence crop geography of Uganda. Ebbingford, Bude (Cornwall), Geographical Publications Ltd, 1962. xi,111p, tables, diagrs, bibliog. 27*s* 6*d*. *World Land Use Survey occasional papers, no. 2.*

A Includes statistics and distribution maps of subsistence crops, with general account of African agriculture in Uganda.

MAYNARD, L. A. *and* LOOSLI, J. K. 631
Animal nutrition. 5th ed. NY, London [etc], McG–H, 1962. vii,533p, illus, tables, diagrs. $9.50; 74*s*. *McGraw-Hill publications in the agricultural sciences.*

B Preserves established character of the book, presenting principles of nutrition and their application to feeding practice. Previous edition 1956.

SEIFERT, A. 632
Compost, tr. [from the 3rd German ed.], by E. M. Hatt. Faber, 1962. 124p, illus, plates, diagr, bibliog. 18*s*.

B German version published Munich, Muller, 1957.

Publishers

THE FOLLOWING ABBREVIATIONS ARE USED IN ASLIB BOOK LIST

A & U	Allen & Unwin
B & S	Bailey & Swinfen
C & H	Chapman & Hall
CUP	Cambridge University Press
EUP	English Universities Press
HMSO	Her Majesty's Stationery Office
McG-H	McGraw-Hill
O & B	Oliver & Boyd
OUP	Oxford University Press
R & KP	Routledge & Kegan Paul
T & H	Thames & Hudson
ULP	University of London Press

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with annotations

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October 1962

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37 Education

KING, E. J. 633
World perspectives in education. Methuen, 1962. 380p, bibliog. 30*s*.

B For students of education and all concerned with effects of accelerating transformation of technology and human relationships. Studies in comparative education and up-to-date review of principles and practices.

LEE, D. M. 634
Background to mathematical development. Oldbourne, [1962]. 227p, diagrs, bibliog. 17*s* 6*d*.

A Discussion of mathematical concepts and techniques in the primary school and place of mathematics in the curriculum. For teachers of mathematics at all levels.

5 MATHEMATICAL AND NATURAL SCIENCES

LEWIN, S. 635
Art of answering examination questions: for science students and teachers. Pitman, 1962. xiv,98p, diagrs, bibliog. 9*s*.

B Concise account, with examples from various sciences, of factors to be considered when preparing for and answering examination questions.

51 Mathematics

BENNER, C. P. *and others* 636
Topics in modern algebra. NY, Harper; [London, Hamish Hamilton], [1962]. x,144p, tables, diagrs, bibliog. $3.75; 26*s*. *Harper's mathematics series.*

B Pure mathematics introductory text on abstract algebra. Includes vector spaces, linear transformations, matrices, groups, linear and Boolean algebras. Theorems, definitions, and exercises.

BICKLEY, W. G. *and* GIBSON, R. E. 637
Via vector to tensor: an introduction to the concepts and techniques of the vector and tensor calculus. EUP, 1962. xvi,152p, diagrs, bibliog. 21*s*. *Applied mathematics series.*

B Based on courses of lectures given to postgraduate students of engineering and science.

BUTLER, R. *and* KERR, E. 638
Introduction to numerical methods. Pitman, 1962. x,386p, tables, diagrs. 40*s*.

B Discusses both theory and practice in relation to needs of Dip. Tech. students taking courses in mathematics, science, or egineering. Worked examples and exercises with answers.

FOX, L. 639
Numerical solution of ordinary and partial differential equations: based on a summer school held in Oxford, August–September 1961. Oxford, NY [etc], Pergamon P, 1962. ix,509p, tables, diagrs, bibliog. 70*s*; $10.50.

C Covers ordinary differential equations, integral equations, and partial differential equations of quasi-linear form. Last part covers extremely difficult and complex practical problems.

GOODSTEIN, R. L. 640
Fundamental concepts of mathematics. Oxford, London, Pergamon P, 1962. viii,279p, diagrs. 40*s*. *International series of monographs on pure and applied mathematics, vol. 22.*

A Account of some of the leading ideas in modern pure mathematics, for teachers seeking to bring their background knowledge up to date.

GUNNING, R. C. 641
Lectures on modular forms, [with] notes by A. Brumer. Princeton (NJ), Princeton UP; [London, OUP], 1962. [7],86p, table, diagrs, bibliog. $2.75; 22*s*. *Annals of mathematics studies.*

C Compact introduction to modern theory, for intending specialists with good grounding in theory of complex variables and the Riemann surface.

KUIPER, N. H. 642
Linear algebra and geometry, [tr. from the Dutch]. Amsterdam, North-Holland, 1962. 292p, illus. 24 *glds.*

B Revised translation from the Dutch edition.

LEININGER, C. W. 643
Differential equations. NY, Harper; [London, Hamish Hamilton], [1962]. x,271p, tables, diagrs. $6; 48*s*. *Harper's mathematics series.*

B Elementary text on linear first- and second-order differential equations, with solutions, the Laplace transform, and applications. Emphasis is on proving that a result *is* a solution and ascertaining if others exist. Exercises.

MILLER, K. S. *and* WALSH, J. B. 644
Elementary and advanced trigonometry. NY, Harper; [London, Hamish Hamilton], [1962]. xi,350p, tables, diagrs. $5.75; 46*s*. *Harper's mathematics series.*

B Elementary work uses co-ordinate methods freely, in the advanced section, besides standard work on complex numbers and the power series for the circular functions, there are chapters on harmonic analysis and the Tschebyscheff polynomials.

NIDDITCH, P. H. 645
Development of mathematical logic. R & KP, 1962. viii,88p, tables, bibliog. 7*s* 6*d*. *Monographs in modern logic.*

A Describes mathematical logic in historical order from Aristotle to Frege and Whitehead and Russell, with a final short section on significant recent work. First book in the series.

52 Astronomy. Surveying. Geodesy

646
ADVANCES in astronomy and astrophysics, ed. by Z. Kopal; vol. 1. NY, London, Academic P, 1962. x,366p, illus, tables, diagrs, bibliog. $10; 80*s*.

C First of annual series of expert review articles on recent work such as shock-wave theory of novae, T Tauri stars, and polarization of starlight.

BUGOSLAVSKAYA, N. YA. 647
Solar activity and the ionosphere: for radio communications specialists, tr. from the Russian by G. O. Harding. Oxford, NY [etc], Pergamon P, 1962. xi, 39p, plates, diagrs. 12*s* 6*d*; $2.50.

C Clear, concise, and up-to-date account of way in which solar radiation and the geomagnetic field influence the ionosphere and hence radio communication. Published Moscow 1960. Typewriter script.

HOYLE, F. 648
Astronomy. Macdonald, 1962. 320p, illus, diagrs. 3 *gns*.

A Absorbing account of ancient and modern theories, facts, and researches in astronomy, of the scientists engaged in the work, and of the equipment employed.

53 Physics and Mechanics

GRIEG, D. M. *and* WISE, T. H. 649
Hydrodynamics and vector field theory: examples in elementary methods. EUP, 1962. x,213p, tables, diagrs. 20*s*. *Applied mathematics series.*

B Applied mathematics text consisting mostly of fully stated and worked-out problems in hydrodynamics, electricity, electromagnetism, and gravitation, with further unworked problems.

JAEGER, J. C. 650
Elasticity, fracture and flow: with engineering and geological applications. 2nd ed. London, Methuen; NY, Wiley, 1962. viii,208p, tables, diagrs. 18*s*. *Methuen's monographs on physical subjects.*

C Account of basic theories of mechanical behaviour of materials, for engineers and geologists concerned with applied stress analysis. First edition 1956; new material on structural geology and rock mechanics.

KING, A. L. 651
Thermophysics, ill. by E. Gillespie. San Francisco, London, Freeman, [1962]. xvii,369p, tables, diagrs, bibliog. $9; 68*s*. *Series of books in physics.*

B Emphasizes physical principles and modern aspects of subject, with concise but sufficient mathematical detail for undergraduates.

652
RESEARCH on spectroscopy and luminescence. NY, Consultants Bureau, [1962]. 4v. $40.

B–C Part 1, calculation of wave functions and oscillator strengths of complex atoms, by L. A. Vainshtein. 50p, tables, diagrs, bibliog. Part 2, on the broadening and shift of spectra lines in the plasma of a gaseous discharge, by M. A. Mazing. 66p, tables, diagrs, bibliog. Part 3, on spectral excitation in a spark discharge, by N. K. Sokhodrev. 52p, illus, tables, diagrs, bibliog. Part 4, the radioluminescence yield of organic substances, by Z. A. Chizhikova. 50p, tables, diagrs, bibliog. Substantial research papers published from a well-known Russian laboratory in 1961. Fully documented.

RICHARDSON, E. G. 653
Ultrasonic physics. 2nd ed., ed. by A. E. Brown. Amsterdam, NY, Elsevier, 1962. xiv,313p, tables, diagrs, bibliog. 15 *glds*. *Elsevier monographs, physics section.*

B–C Well-referenced survey of experimental aspects of production, properties, and detection of ultrasound, dealing with propagation in solids, liquids, gases, and dispersed systems, and with applications to study of critical states and other phenomena. Useful collection of information marred in many places by outdated electronics and some very poor presentation.

SHURCLIFF, W. A. 654
Polarized light: production and use. Cambridge (Mass), Harvard UP; London, OUP, 1962. ix,207p, tables, diagrs, bibliog. $6.25; 50*s*.

C Authoritative treatment of theoretical concepts of polarized light, properties of polarizers of various types, methods of production, and applications. Extensive bibliography.

655
SOLID state physics: advances in research and applications, ed. by F. Seitz and D. Turnbull; vol. 13. NY, London, Academic P, 1962. xv,482p, illus, tables,

diagrs, bibliog. $14.50; 103*s* 6*d*.

C Highly specialized and condensed reviews of modern formalisms of band theory, chemical bonding, vibration spectra of solids, electron spin resonance in semiconductors, mechanical and electrical properties of metals at high pressures, and dislocations in lithium fluoride.

WHITMER, R. M. 656
Electromagnetics. 2nd ed. Prentice-Hall, 1962. x,357p, tables, diagrs, bibliog. 3 *gns*.

B Student text on classical electrophysics, including electrostatics, electromagnetics and their materials, ac and dc circuit theory, wave propagation, and wave guides. Emphasis on field theory.

539.1 *Nuclear Physics*

JONES, G. O. *and others* 657
Atoms and the universe: an account of modern views on the structure of matter and the universe, by G. O. Jones, J. Rotblat, G. J. Whitrow. 2nd ed. Eyre & Spottiswoode, 1962. 275p, plates, tables, diagrs, bibliog. 30*s*.

A Surveys atomic structure and energy, cosmic rays, classical to modern physics, solar system, milky way, and size and age of universe.

54 Chemistry

GRINBERG, A. A. 658
Introduction to the chemistry of complex compounds, tr. from the 2nd [Russian] ed. (1951) by J. R. Leach, ed. by D. H. Busch and R. F. Trimble. Oxford, Paris [etc], Pergamon P; Reading (Mass), Addison-Wesley, 1962. xxi,363p, tables, diagrs, bibliog. 5 *gns*; $15.

B Written eleven years ago; recent advances are not included except for very brief editorial footnotes. Presents considerable amount of systematic and experimental information along classical lines.

GUY, K. 659
Laboratory organization and administration. London, Macmillan; NY, St Martin's P, 1962. xiv,386p, illus, tables, diagrs, bibliog. 50*s*.

B–C Comprehensive monograph covering Intermediate and Final examinations of City & Guilds of London Institute.

KNAPMAN, C. E. H. *and* SCOTT, C. G. *eds* 660
Gas chromatography abstracts 1961, sponsored by the Gas Chromatography Discussion Group (associated with the Hydrocarbon Research Group of the Institute of Petroleum). Butterworths, 1962. x,219p, 2 *gns*.

D 883 indicative abstracts, with good author and subject indexes.

LADD, M. F. C. *and* LEED, W. H. 661
Qualitative inorganic analysis. Cleaver-Hume, 1962. 108p, tables, diagrs. 11*s* 6*d*.

B Theoretical aspects treated in close conjunction with practical instructions.

55 Geology. Meteorology

FUJITA, H. 662
Mathematical theory of sedimentation analysis. NY, London, Academic P, 1962. xii,315p, tables, diagrs, bibliog. $11; 88*s*. *Physical chemistry: a series of monographs, vol. 11.*

C Important mathematical interpretation of ultracentrifugal analysis, with special reference to author's own contributions. Mainly for biophysical chemists.

GOGUEL, J. 663
Tectonics, tr. from the French edition of 1952 by H. E. Thalmann. San Francisco, London, Freeman, [1962]. viii,384p, diagrs, bibliog. $10; 70*s*. *Series of geology texts.*

B Little alteration from the French edition, but a few references up to 1957 and several new illustrations have been added.

HATCH, F. H. *and others* 664
Petrology of the igneous rocks, by the late F. H. Hatch, A. K. Wells, and M. K. Wells. 12th ed. Murby, 1961. 515p, illus, tables, diagrs, bibliog. 45*s*. *Textbook of petrology, vol. 1.*

B Rewritten and enlarged. Optical properties treated more briefly and description and discussion of rocks expanded.

INTER-UNIVERSITY GEOLOGICAL CONGRESS 665
Some aspects of the variscan fold belt: ten lectures delivered to the ninth . . . congress, ed. by K. Coe. Manchester, Manchester UP, [1962]. vii,163p, tables, diagrs, bibliog. 30*s*.

C Most papers give results of recent detailed stratigraphic and sedimentation studies of British upper palaeozoic and their use in delimiting the various Hercynian orogenes.

MILNER, H. B. 666
Sedimentary petrography: with special reference to petrographic methods of correlation of strata, petroleum technology and other economic applications of geology. 4th ed. by H. B. Milner assisted by co-editors A. M. Ward and F. Higham. A & U, 1962. illus, plates, tables, diagrs, bibliog. 2v. 100*s* each.

B–D Vol. 1, methods in sedimentary petrography. 643p. Vol. 2, principles and applications. 715p. Entirely revised and enlarged to twice size of original edition; includes specialist essays by experts in particular fields.

PIERCE, R. L. 667
Lower upper cretaceous plant microfossils from Minnesota. Minneapolis, Minnesota UP, 1961; [London, OUP, 1962]. xi,86p, plates, tables, diagr, bibliog. $3.75; 30*s*. *University of Minnesota, Minnesota Geological Survey, bulletin 42.*

C Combines evolutionary, geological, palaeofloristic, and palaeoecological aspects with a comparison of the macro- and microfossil records.

57 Anthropological and Biological Sciences

668
GEOLOGIC activity of microorganisms, ed. by S. I. Kuznetsov, tr. from the Russian. NY, Consultants Bureau, 1962. vii,112p, tables, diagrs, bibliog. $17.50. *Transaction (Trudy) of the Institute of Microbiology no. 9.*

B Discussion of present state of knowledge of subject and applications in oil and gas prospecting. Published Moscow 1961. Typewriter script.

SEELEY, H. W. *and* VANDEMARK, P. J. 669
Microbes in action: a laboratory manual of microbiology. San Francisco, London, Freeman, [1962]. x,449p, illus, tables, diagrs. $3.50; 22*s*. *Series of biology texts.*

B Comprehensive series of experiments, with emphasis on bacteria, with pages for recording results. Useful source of ideas for anyone planning a course in basic microbiology.

58 Botany

MCVEAN, D. N. *and* RATCLIFFE, D. A. 670

Plant communities of the Scottish highlands: a study of Scottish mountain and moorland and forest vegetation. HMSO for Nature Conservancy, 1962. xiii, 445p, plates, tables, diagrs, bibliog. 77*s* 6*d*. *Monographs of the Nature Conservancy, no. 1.*

B Describes different types of terrestrial vegetation and relates these to the ecological picture. Examines only natural and semi-natural vegetation.

TANDON, R. N. 671

Physiological studies on some pathogenic fungi. Allahabad, Scientific Research Committee; London, Asia Publishing House, 1962. [4],80p, tables, bibliog. 9*s* 6*d*. *Uttar Pradesh Scientific Research Committee monographs.*

C Account of work on nutritional physiology of a series of fungi of interest as plant pathogens.

59 Zoology

SLIJPER, E. J. 672

Whales, [tr. from the Dutch by A. J. Pomerans]. Hutchinson, 1962. 475p, illus, tables, diagrs, bibliog. 3 *gns.*

A Revised translation of 1958 monograph covering all aspects of natural history and various problems connected with whaling. Detailed and scientific in treatment, but addressed to wide circle of readers.

WELLS, M. J. 673

Brain and behaviour in cephalopods. London, Melbourne [etc], Heinemann, 1962. [7],171p, illus, plate, tables, diagrs, bibliog. 16*s*. *Heinemann studies in biology.*

B Concise study of behaviour, and the nervous organization involved, in a group of invertebrates upon which much recent experimental work has been concentrated.

6 APPLIED SCIENCES

CZERNI, S. *and* SKRZYŃSKA, M. *eds* 674

English–Polish technological dictionary. Oxford, NY [etc], Pergamon P; Warsaw, Wydawnictwa Naukowo-Techniczne, [1962]. [7],443p. 60*s*.

D Concise dictionary comprising selection of most important terms used in wide range of engineering and science subjects; of greater use to translators of general technical papers than to specialized engineers and scientists.

ERNST, R. 675

Dictionary of industrial technology including related fields of science and civil engineering. Pitman, 1962, 2v. 55*s* each.

D Vol. 1, German–English. 5th ed. [8],807p. Vol. 2, English–German. 9th ed. with supplement 1960. [8],671,121p. Wide coverage including nuclear physics, electronics, telecommunications, and chemistry. Concise treatment. American usage distinguished.

61 Health and Safety

BARRON, N. 676

Pig farmer's veterinary book. 3rd ed. Ipswich (Suffolk), Dairy Farmer, 1962. 182p, illus, plates, diagrs. 25s.

B Sound up-to-date advice on improving efficiency of herds and reducing losses to a minimum. Completely revised since 1959 edition.

BECKETT, A. H. *and* STENLAKE, J. B. 677
Practical pharmaceutical chemistry: quantitative analysis. University of London, Athlone P, 1962. viii,378p, tables, diagrs. 3 *gns*.

B For students preparing for degrees or diplomas in pharmacy. Full treatment of recently introduced methods of analysis, and emphasis throughout on techniques and accuracy of analytical methods employed.

FREEMAN, N. T. 678
Protective clothing and devices: a guide to the selection, use and legal requirements relating to all types of protective clothing and equipment for industrial workers. United Trade P, 1962. xii,193p, illus, tables. 31*s* 6*d*.

B Concise and comprehensive treatment, for management and safety personnel, of increasingly important industrial topic.

PARKER, M. E. *and* LITCHFIELD, J. H. 679
Food plant sanitation. NY, Reinhold; London, C & H, 1962, vii,401p, illus, tables, diagrs, bibliog. $12; 96*s*.

B Covers all recent technical advances as well as latest sanitation requirements arising from recent amendments to the Federal Food, Drug, and Cosmetics Act.

STERN, A. C. *ed.* 680
Air pollution. NY, London, Academic P, 1962. Illus, tables, diagrs, bibliog. 2v.

C Vol. 1. xviii,656p. $20; 143*s*. Vol. 2. xvii,586p. $18.50; 132*s* 6*d*. Authoritative and comprehensive work, giving adequate and detailed information on every source of air pollution, with comment on latest technical methods of control.

62 Engineering and Technology

621 *Mechanical and Electrical Engineering*

ANDERSON, H. H. 681
Centrifugal pumps. Sutton (Surrey), Trade and Technical P, [1962]. vii,182p, illus, tables, diagrs, bibliog. 55*s* 6*d*.

B–C Notable contribution to the literature, for designers, development engineers, and users.

FRISCH-FAY, R. 682
Flexible bars. Butterworths, 1962. viii,220p, plate, tables, diagrs, bibliog. 50*s*.

C Comprehensive monograph on nonlinear problems of deformations of elastic bars.

ROBERTS, J. A. *comp.* 683
Spring design and calculations. 11th ed. Redditch (Worcs.), Herbert Terry & Sons, 1961 [i.e. Apr 1962]. 138p, illus, tables, diagrs. 12*s* 6*d*.

B Practical instructions for those concerned with design of more common kinds of spring.

SMITH, P. H. 684
Scientific design of exhaust and intake systems. Foulis, 1962. x,212p, illus, tables, diagrs. 35*s*.

C Critical investigation into theory concerning behaviour of gas flow in automobile induction and exhaust systems.

TUPLIN, W. A. 685
Gear load capacity. Pitman, 1962. xiv,177p, tables, diagrs, bibliog. 17*s* 6*d*. *Applied mechanics monographs.*

C Critical interpretation of British Standard formulae for load-capacity of gears. Gives improved formulae which include consideration of dynamic loads and vibration. For designers and gear specialists.

TUPLIN, W. A. 686
Involute gear geometry. Chatto & Windus, 1962. [11],188p, diagrs, bibliog. 40*s*.

B Deals with some aspects of practical importance in geometry of involute gears. For specialists and advanced students.

621.3 *Electrical Engineering*

687
BASIC electronic circuits: a basic training manual developed by a special electronics training investigation team of the Royal Electrical & Mechanical Engineers working in conjunction with Technical Training Command of the Royal Air Force and Decca Radar Limited; part 1. London, Technical P; NY, Brolet P, [1962]. [6],118p, illus, diagrs. 18*s*. *Common core books.*

B Textbook relying on explanation by diagrams rather than by words. Covers wave forms, pulse response in different circuits, and includes illustrated dictionary of basic circuits.

CANTOR, L. *and* HORSTMANN, H. 688
Repairing TV remote controls. NY, Rider, [1962]. vi,122p, illus, tables, diagrs. $2.50.

B Describes various remote-control systems available on American market. Of interest in England as indication of possible trends.

KHARKEVICH, A. A. 689
Nonlinear and parametric phenomena in radio engineering, tr. from the Russian by J. G. Adashko, ed. by K. A. Pullen. NY, Rider, [1962]. xvi,192p, tables, diagrs, bibliog. $6.50. *Electrical engineering monograph series.*

B–C Well-translated mathematical approach to familiar circuits, with good bibliography. For design engineers in particular.

KING, G. J. 690
Radio and television test instruments. Odhams P, 1962. 176p, illus. 25*s*.

A–B Clear and practical treatment, for amateurs setting up their own laboratories or servicemen wishing to make better use of their facilities.

SPREADBURY, F. G. 691
Electronic rectification. Constable, 1962. viii,423p, illus, tables, diagrs, bibliog. 50*s*.

B Theoretical treatise by mathematician, dealing with all types of rectifier and their operation. Full information is given but is not always easy to find and assess.

621.7 *Workshop Practice*

CHAPMAN, W. A. J. 692
Workshop technology; part 1, an introductory course, 4th ed. Edward Arnold, 1962. viii,339p, illus, tables, diagrs. 16*s* 6*d*.

B Deals with principles underlying workshop processes, and is intended mainly for workshop operators. Chapter 12, the shaping machine, is available separately at 1*s* 6*d*; remainder of material is unchanged from 3rd edition (1959).

GIBBY, J. C. 693
Technical illustration: procedure and practice. Chicago (Ill), American Technical Society; London, Technical P, [1962]. [6],218p, illus, tables, diagrs. $6.60; 56*s*.

B Comprehensive presentation of the up-to-date facts, techniques, and procedures the technical illustrator must know.

622 *Mining*

SINCLAIR, J. 694
Coal preparation and power supply at collieries. Pitman, 1962. vii,468p, illus, tables, diagrs. 70*s*.

B Outline of commercial coal-cleaning processes and short exposition on power utilization.

629.1 *Transport Engineering*

BENT, R. W. 695
Motor vehicle technology; part 2. 2nd ed. Pitman, 1962. vii,160p, illus, tables, diagrs. 12*s* 6*d*.

A Details of engine construction, lubrication, cooling, carburation, and ignition; for City & Guilds of London Institute examinations. First edition 1948.

WATSON, G. O. *and others* 696
Marine electrical practice. 2nd ed. Newnes, 1962. ix,446p, illus, tables, diagrs. 45*s*. *Newnes marine engineering series.*

B Maintenance manual for ships' engineers, clearly written and covering the whole field.

629.19 *ASTRONAUTICS*

PENNER, S. S. *and* WILLIAMS, F. A. *eds* 697
Detonation and two-phase flow: a selection of technical papers based mainly on a symposium of the American Rocket Society held at Palm Beach, Florida, April 26–28, 1961. NY, London, Academic P, 1962. xii,368p, illus, tables, diagrs. $7; 2 *gns*. *Progress in astronautics and rocketry, vol. 6.*

C Papers illustrate current research and development on problems relating to detonations, two-phase nozzle flow, and combustion in liquid fuel rocket engines. Typewriter script.

63 Agriculture. Forestry. Livestock. Fisheries

GRUNSELL, C. S. *and* WRIGHT, A. I. *eds* 698
Animal health and production. Butterworths, 1962. 224p, illus, tables, diagrs. 2 *gns*.

B–C Thirteen papers from symposium on influence of disease on animal production, with discussions. Cover metabolic disorders of cattle, fowl paralysis and avian leucosis complex, and immunity. Interesting paper on variations in response of individual animals and importance of this in interpreting results of experimental treatments.

PORTSMOUTH, J. I. 699
Commercial rabbit meat production. Iliffe, 1962. *8*,141p, plates, tables, diagrs. 21*s*.

B Covers all aspects: breeds and breeding; housing, feeding, and management (including disease control); marketing and costing. For small and large-scale enterprises.

SYKES, J. D. *and* HARDAKER, J. B. 700
Potato crop: policy and practices. Ashford (Kent), Wye College (Department of Agricultural Economics), 1962. 76p, plates, tables, diagrs. 5*s*.

A Economic study concerned with problems of potato industry in Great Britain as a whole and improvement of efficiency on the farm.

VINCENT, W. H. *ed.* 701
Economics and management in agriculture. Englewood Cliffs (NJ), Prentice-Hall, 1962. xvii,452p, $10.

B Undergraduate textbook embracing essential managerial and economic concepts as they apply to all levels in decision-making in agriculture.

65 Business Techniques. Management

CARMEL, J. H. 702
Exhibition techniques: traveling and temporary. NY, Reinhold; [London, C & H], [1962]. 216p, illus, diagrs, bibliog. $12.50; 100*s*.

A Information on all aspects by author with wide experience in USA. Inadequate index.

DANTON, G. L. 703
Theory and practice of seamanship. R & KP, 1962. xv,524p, plates, diagrs, bibliog. 50*s*.

A–B Covers syllabus of Ministry of Transport's Certificate of Competency.

DEVEREUX, E. J. P. *comp.* 704
Introduction to visual aids. Matthews, Drew & Shelbourne, for Visual Aids Centre, [1962]. [4],190p, illus, tables, diagrs, bibliog. 25*s*.

A Chapters on various media and their areas of use, by authorities in the field.

GREENE, D. E. [*and others*] 705
Production technology: some recent developments. C & H, 1962. xiv,268p, plates, tables, diagrs, bibliog. 50*s*.

B Introduction to work study, materials handling, quality control, layout, maintenance, computer applications, and transfer machines.

SIMMONS, J. R. M. 706
Leo and the managers. Macdonald, 1962. 174p, diagrs. 18*s*.

C Chief Comptroller of J. Lyons & Co. deals with theory of management developed in conjunction with Lyons Electronic Office. Valuable case history in application of modern data-processing methods.

66 Chemical Technology

ABRAHAM, H. 707
Asphalts and allied substances: their occurrence, modes of production, uses in the arts, and methods of testing. 6th ed, in 5 vols; vol. 3, manufactured products. Princeton (NJ), London [etc], Van Nostrand, 1962. xi,969p, illus, tables, diagrs, bibliog. $25; 195*s*.

C Fully revised volume dealing essentially with formulation, compounding, and manufacture of end products derived from asphalts and bitumens.

ALLMAND, T. R. 708
Microscopic identification of inclusions in steel. British Iron and Steel Research Association, [1962]. 72p, illus, tables, bibliog. 20*s*.

C Details of physical and optical properties of the whole range of non-metallic inclusions found in steel, with methods for their identification under the optical microscope.

BURKE, J. E. *ed.* 709
Progress in ceramic science, vol. 2, Oxford, London, Pergamon P, 1962. vii, 246p, plates, tables, diagrs, bibliog. 80*s*.

C Covers dislocation etch pits in non-metallic crystals, devitrified glass ('pyroceram'), radiation damage, and thermal conductivity of ceramic dielectrics.

DAVIDSON, R. L. *and* SITTIG, M. *eds* 710
Water-soluble resins. NY, Reinhold; London, C & H, [1962]. vii,209p, illus, tables, diagrs, bibliog. 60*s*.

C Review of chemistry, preparation, properties, and most important applications.

DENAVARRE, M. G. 711
Chemistry and manufacture of cosmetics. 2nd ed; vol. 1, background, with a foreword by S. Wilson. Princeton (NJ), London [etc], Van Nostrand, [1962]. xiii,389p, illus, tables, diagrs, bibliog. $10.75; 4 *gns*.

C First of four volumes, including aerosols, antibiotics, emulsions, perfume creation, etc. Chapter on American Federal Food, Drug, and Cosmetic Act of value to anyone considering formulation of cosmetics for export to USA.

HOUGHTON, P. S. 712
Materials for engineering production. Brighton, London, Machinery, [1962]. Illus, tables, diagrs, bibliog. 4v. 20*s* each. *Machinery's standard reference series.*

D Part 1, ferrous materials; vols 1 and 2. 190;191p. Part 2, non-ferrous materials; vols 1 and 2. 196;199p. Practical presentation of data on structure and properties of available engineering materials, assisting user to select best material for specific purposes.

713
JOINING of rarer metals: based on a symposium at the Borough Polytechnic, London, ed. by G. Isserlis, Manchester, London, Columbine P, 1962. x,106p, illus, tables, diagrs, bibliog. 17*s* 6*d*.

C Valuable review of problems associated with joining of rarer metals, with discussion of suitable methods of fabrication by welding, etc. For both metallurgists and welders.

PREECE, I. A. *ed.* 714
Malting, brewing and allied processes 1961: a literature survey, prepared for the Institute of Brewing. [The Institute, 1962], 32p, bibliog. 10*s*.

C Brief review of technical literature published 1961, with full references to the originals.

SÉFÉRIAN, D. 715
Metallurgy of welding, tr. [from the French] by E. E. Bishop, with a preface by P. Chévenard. C & H, 1962. xx,375p, illus, tables, diagrs, bibliog. 70*s*.

B Progress to 1959 on problems connected with weldability of carbon and alloy steels.

SMITHELLS, C. J. 716
Metals reference book. 3rd ed. Butterworths, 1962. xvi,567,17; xvi,569–1087, 17p, tables, diagrs, bibliog. 2v. 10 *gns*.

D Summary of data with minimum of descriptive matter. Vol. 1 deals with metal-physical topics, vol. 2 with more practical aspects. Previous edition 1955; much enlarged.

TWEEDDALE, J. G. 717
Metallurgical principles for engineers: the control, manufacture, manipulation and use of metals. Iliffe, 1962. 7,560p, plates, tables, diagrs. 85*s*.

B Bridges gap between physical metallurgy and practical use of metals, covering metallurgy syllabus of Institute of Mechanical Engineers.

67/68 Manufactures

AKIN, R. B. 718
Acetal resins. NY, Reinhold; London, C & H, [1962]. xi,178p, illus, tables, diagrs. 50*s*. *Reinhold plastics applications series.*

C Ambiguously titled: deals not with polyvinyl acetals but with high molecular weight linear polyformaldehydes, of which the main commercial example is du Pont's Delrin.

CHATFIELD, H. W. *ed.* 719
Science of surface coatings, Benn, 1962. xix,594p, illus, tables, diagrs, bibliog. 7 *gns*.

C Concise review of relevant physics, chemistry, and chemical engineering.

681 *Precision Mechanisms*

CHOROFAS, D. N. 720
Programming systems for electronic computers, with a preface by R. W. Revans. Butterworths, 1962. xvi,188p, tables, diagrs. 50*s*.

B Comprehensive and logically developed account for students and practitioners and those who require understanding of principles and trends of programming.

HALSTEAD, M. H. 721
Machine-independent computer programming. Washington (DC), Spartan Books, 1962. 267p. $6.50.

B Account of neliac, a 'dialect' of the international computer language algol.

69 Building Industry

BARRY, R. 722
Construction of buildings; vol. 1, foundations, walls, floors and roofs; foreword by A. J. Willis. 2nd ed. Crosby Lockwood, 1962. vi,130p, tables, diagrs, bibliog. 18*s*.

B Expanded to include details of single-lap tiling with the types—Spanish tiles, pantiles, Italian, and Roman tiles—used in Britain. First edition 1958. Spiral binding.

GREAT BRITAIN. Ministry of Works 723
Survey of problems before the construction industries: report prepared by Sir Harold Emmerson. HMSO, 1962. 27p, tables. 1*s* 6*d*.

B Results of rapid survey begun in autumn of 1961 of problems of supply and distribution of materials, building operations, relations of owner, architect, and contractor, placing and management of contracts, the industry in Scotland, apprenticeship and training, research, and the public interest in increased efficiency.

77 Photography

GUNTHER, A. 724
Microphotography in the library; reprinted from *Unesco Bulletin for Libraries*, vol. XVI, no. 1, January–February 1962 (item 1). Paris, Unesco; [London, HMSO], 1962. 26p, plates, diagrs. 2NF; 2*s* 6*d*.

A Survey of practical aspects of production and handling of microphotographs and installation of a photographic laboratory.

SCHEERER, T. M. 725
The Leica and the Leica system, tr. [from the German] by F. Bradley. Fountain P, [1962]. 184p, illus, tables, diagrs. 37*s* 6*d*.

A Details whys and wherefores of Leica accessories. Well illustrated.

726
SCIENTIFIC photography: proceedings of the international coloquium held at Liége and sponsored by the Patrimoine de l'Université de Liége. Oxford, NY [etc], Pergamon P, 1962. xx,617p, illus, tables, diagrs. 200*s*; $30.

C Proceedings of a 1959 conference on sensitivity of photographic emulsions, comprising some fifty papers in English, French, and German, by research workers.

TAYLOR, A. F. 727
Photography in commerce and industry. Fountain P, [1962]. 414p, illus, plates, tables, diagrs. 3 *gns*.

A–B Discussion of special problems of industrial photography for readers with good knowledge of general photography.

Publishers

THE FOLLOWING ABBREVIATIONS ARE USED IN ASLIB BOOK LIST

A & U	Allen & Unwin
B & S	Bailey & Swinfen
C & H	Chapman & Hall
CUP	Cambridge University Press
EUP	English Universities Press
HMSO	Her Majesty's Stationery Office
McG-H	McGraw-Hill
O & B	Oliver & Boyd
OUP	Oxford University Press
R & KP	Routledge & Kegan Paul
T & H	Thames & Hudson
ULP	University of London Press

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0 SCIENCE AND KNOWLEDGE

002 Documentation

KENT, A. 728
Textbook on mechanized information retrieval. NY, London, Interscience, [1962]. xii,268p, illus, tables, diagrs, bibliog. $9.50; 72*s*. *Library science and documentation: a series of texts and monographs, vol. 3.*

B First systematic introduction to the basic principles and techniques of machine literature searching, written by one of the foremost authorities on the subject.

007 Information. Communication. Control Theory

ELLIS, D. O. *and* LUDWIG, F. J. 729
Systems philosophy. Prentice-Hall, 1962. xi,387p, illus, tables, diagrs, bibliog. 3 *gns. Prentice-Hall space technology series.*

B 'Systems' here denote overall procedures, with ancillary devices, for providing data in the form of inscriptions or signals. The book supplies illustrative examples and attempts to provide basic notions and techniques for treating the problem as a whole.

3 SOCIAL SCIENCES

31 Statistics

OWEN, D. B. 730
Handbook of statistical tables. London, Paris, Pergamon P; Reading (Mass), Addison-Wesley, [1962]. xii,580p, tables, diagrs, bibliog. 70*s*; $10. *Addison-Wesley series in statistics.*

D New collection of tables relating to wide variety of modern statistical techniques; for students, practising statisticians, and research workers.

37 Education

GARFORTH, F. W. 731
Education and social purpose. Oldbourne, [1962]. 174p, bibliog. 17*s* 6*d*.

A Emphasizes interdependence of education and society and suggests that if this country's ideals of social democracy were firmly grasped education could be used to enrich our culture.

GREAT BRITAIN. Ministry of Education. *Committee in General Studies* 732
General studies in technical colleges. HMSO, 1962. [3],23p, tables. 2*s*.

A

NATIONAL SOCIETY FOR THE STUDY OF EDUCATION 733
Education for the professions, ed. by N. B. Henry. Chicago UP, for the Society, 1962. xi,312,cviip, tables. $4.50.

B Part 2 of the 61st *Yearbook*.

OAKLEY, C. A. *ed.* 734
Commercial apprenticeship, by E. Tonkinson, R. E. Thomas, and R. G. Magnus-Hannaford. ULP, [1962]. 112p. 12*s* 6*d*.

A Education and training for commerce and distribution.

SMITH, W. I. *and* MOORE, J. W. *eds* 735
Programmed learning: theory and research, an enduring problem in psychology; selected readings. Princeton (NJ), London [etc], Van Nostrand, [1962]. x,240p, tables, diagrs, bibliog. $1.75; 15*s*. *Insight books, no. 8.*

B Useful introductory text.

5 MATHEMATICAL AND NATURAL SCIENCES

51 Mathematics

AMIR-MOÉZ, A. R. *and* FASS, A. L. 736
Elements of linear spaces. Oxford, NY [etc], Pergamon P, 1962. ix,149p, diagrs. 35*s*; $5.50. *International series of monographs on pure and applied mathematics, vol. 26.*

B Elementary course in vectors, linear transformations, and matrices in real euclidean space.

737
FOUNDATIONS of statistical inference: a discussion opened by Professor L. J. Savage at a meeting of the Joint Statistics Seminar, Birkbeck and Imperial Colleges, in the University of London. London, Methuen; NY, Wiley, 1962. 112p, bibliog. 15*s*. *Methuen's monographs on applied probability and statistics.*

B Informal statement of main stream of rival ideas on inference from limited data.

GOLDBERG, S. I. 738
Curvature and homology. NY, London, Academic P, 1962. xvii,315p, bibliog. $8.50; 68*s*. *Pure and applied mathematics: a series of monographs and textbooks, vol. 11.*

C Study of differential geometry of real and abstract spaces, including Riemann, Kaehler, Hermitian, and orientable manifolds, topological structures, homology structures, Lie groups, and conformal transformation groups.

KAPLAN, W. 739
Operational methods for linear systems. Reading (Mass), London [etc], Addison-Wesley, [1962]. xi,577p, tables, bibliog. $7; 59*s*. *Addison-Wesley series in mathematics.*

B Emphasis is on Fourier integral and transforms.

ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT 740
Mathematics for engineers and physicists: report of the OEEC seminar on the mathematical knowledge required by the physicist and engineer. . ., Paris, February 1961. Paris, the Organization, 1961. 223p, gratis.

B Papers, discussions, and recommendations.

OWEN, G. E. 741
Fundamentals of scientific mathematics. Baltimore (Md), Johns Hopkins P; London, OUP, [1962]. xii,274p, illus, plate, diagrs. $5.50; 40*s*.

A Informal account of matrices, vectors, co-ordinate geometry, and calculus.

POSTNIKOV, M. M. 742
Foundations of Galois theory, tr. [from the Russian] by A. Swinfen, with introductory foreword by translation ed. P. J. Hilton. Oxford, Paris [etc], Pergamon P; Reading (Mass), Addison-Wesley, 1962. x,109p. 2 *gns*; $6.50. *International series of monographs on pure and applied mathematics, vol. 29.*

B Deals with basic problems of algebraic insolubility of equations of degree greater than four. The relevant parts of group theory and other topics are developed as required.

WHEELER, J. A. 743
Geometrodynamics. NY, London, Academic P, [1962]. xxiii,334p, tables, diagrs. $6.50; 52*s*. *Italian Physical Society. Topics of modern physics, vol. 1.*

C Four important papers on geometry of curved empty space and its temporal evolution according to general relativity, previously published in various journals.

WOLF, F. L. 744
Elements of probability and statistics. NY, London [etc], McG-H, 1962. xv, 322p, tables, diagrs. $7.50; 58*s*. *McGraw-Hill series in probability and statistics.*

B Elementary text which pays particular attention to basic concepts.

53 Physics and Mechanics

CALLENDAR, H. L. *and* CALLENDAR, G. S. 745
Abridged Callendar steam tables. 5th ed. rev. by E. J. le Fevre. Edward Arnold, 1962. Tables. 2v. 1*s* 6*d* each.

D Vol. 1, Btu version. 8p. Vol. 2, Chu version. 8p. *With* Enthalpy–entropy steam chart 1962 (Btu version). 14 in. by 21 in. 1*s*. Tables cover the range from the triple point to the critical point and entropy and enthalpy for 400°F of superheat. Column for specific volume of liquid water is now included, and modern authentic units and conversion factors are given.

HAAG, J. 746
Oscillatory motions; vols 1 and 2, tr. [from the French] by R. M. Rosenberg. Belmont (Cal), Wadsworth Publishing Co.; London, Constable, [1962]. xxi, 193; xi,201p, table, diagrs, bibliog. 75*s*.

C Mathematically detailed and unusual treatment of theory of forced vibrations of linear and nonlinear systems, applied to problems in seismology, chronometry, mechanical and electrical filters, and to the behaviour of gyroscopes, bicycles, and automobiles. Originally published 1952–5.

KALLMANN, H. *and* SILVER, M. *eds* 747
Symposium on electrical conductivity in organic solids, sponsored by Office of Ordnance Research, US Army; Office of Naval Research, US Navy; Office of Scientific Research, US Air Force, held at Duke University, Durham, North Carolina, April 20–22, 1960. NY, London, Interscience, 1962. 398p, illus, tables, diagrs, bibliog. $12.50; 94*s*.

C Twenty-eight papers dealing with theoretical and experimental research topics, mainly for physicists and chemists.

LADEFOGED, P. 748
Elements of acoustic phonetics. Edinburgh, London, O & B, 1962. vi,118p, tables, diagrs, bibliog. 21*s*.

B Concise text, with clear diagrams and graphs, gives basic background on acoustics of speech for phoneticians, linguists, speech therapists, and others with little knowledge of mathematics or physics.

NEEDHAM, J. *and others* 749
Science and civilisation in China, by J. Needham with the collaboration of Wang Ling and K. G. Robinson; vol. 4, physics and physical technology: part 1, physics. Cambridge, CUP, 1962. xxxiv,434p, illus, plates, tables, diagrs, bibliog. 4 *gns*.

B–C Full account of Chinese physics until the stagnation of recent centuries set in. Light, musical acoustics, and magnetism were the chief subjects studied.

750

RECENT developments in general relativity. Oxford, NY [etc], Pergamon P; Warsaw, Polish Scientific Publishers, [1962]. 472p, tables, diagr, bibliog. 55*s*; $8.

C Leopold Infeld *Festschrift* containing seven valuable review articles surveying basic aspects, and applications of the theory, and thirty-eight original papers on special problems, by research workers of established reputation.

WELLS, M. J. *ed.* 751

Spectroscopy: report of the conference organized by the Hydrocarbon Research Group of the Institute of Petroleum and held in London, March 1962. Distributed by Pergamon P for the Institute, 1962. viii,305p, illus, tables, diagrs, bibliog. 3 *gns*.

C Twenty-three papers reviewing progress in various fields, including free radical spectroscopy, nuclear magnetic and electron spin resonance, and uses of computers.

539.1 *Nuclear Physics*

BATES, D. R. *ed.* 752

Atomic and molecular processes. NY, London, Academic P, 1962. xv,904p, illus, tables, diagrs, bibliog. $19.50; 140*s*. *Pure and applied physics: a series of monographs and textbooks, vol. 13.*

B–C Up-to-date surveys of experimental and theoretical aspects of radiative and collisional processes of atoms and molecules. Fully documented and indexed.

JØRGENSEN, C. K. 753

Orbitals in atoms and molecules. London, NY, Academic P, 1962. v,162p, tables, diagrs, bibliog. 35*s*.

C Outlines the application, particularly to spectroscopic and solid state theory, of group theory of many-electron atomic and the less complicated molecular systems of high symmetry.

54 Chemistry

MUELLER, W. M. *ed.* 754

Advances in x-ray analysis; vol. 5, proceedings of the 10th annual conference on application of x-ray analysis, held August 7–9, 1961. NY, Plenum P, 1962. xi, 564p, illus, tables, diagrs. $17.50.

B–C About fifty papers most of which deal with new applications of established techniques, though some consider interesting novel techniques.

SOCIÉTÉ DE CHIMIE PHYSIQUE 755

Deoxyribonucleic acid: structure, synthesis and function; proceedings of the 11th annual reunion of the Société . . ., June 1961. Oxford, NY [etc], Pergamon P, 1962. ix,235p, illus, tables, diagrs, bibliog. 60*s*; $10.

C About thirty papers in English, French, and German, on molecular and electronic structure, chemistry, reactions, biosynthesis, and radiation and photochemical behaviour of deoxyribonucleic acid and on its relationship to the genetic material of the chromosomes.

WARD, R. G. 756

Introduction to the physical chemistry of iron & steel making. Edward Arnold, 1962. ix,238p, tables, diagrs, bibliog. 2 *gns*.

B Most valuable book, expressing concisely current views on physical chemistry of iron and steel making processes.

548 *Crystallography*

KITAIGORODSKII, A. I. 757

Organic chemical crystallography, tr. from the Russian. NY, Consultants Bureau; [London, Heywood, 1962]. x,541p, illus, tables, diagrs. $17.50; 135*s*.

C Presents authoritative survey of subject and details the crystal structure of over 200 compounds. Published Moscow 1955.

SHUBNIKOV, A. V. *and* SHEFTAL', N. N. *eds* 758
Growth of crystals; vol. 3, reports of the second conference on crystal growth, Moscow, March 23–April 1, 1959, tr. from the Russian. NY, Consultants Bureau, 1962. xi,357p, illus, tables, diagrs, bibliog. $25.

C Eleven papers on theoretical and sixty-eight papers on experimental crystal growth, the latter covering nucleation, growth mechanism, growth of monocrystals including metals, semiconductors, and ferrites. Typewriter script.

WOOSTER, W. A. 759
Diffuse x-ray reflections from crystals. Oxford, Clarendon P, 1962. xi,200p, illus, tables, diagrs, bibliog. 35*s*.

C Describes information that can be obtained from diffuse x-ray scattering by crystals; for those interested in properties of real as distinct from ideal solids.

55 Geology. Meteorology

INGERSON, E. *ed.* 760
Clays and clay minerals. Oxford, NY [etc], Pergamon P, 1962. xi,614p, plates, tables, diagrs, bibliog. 5 *gns*; $15. *Earth science series, monograph no. 11.*

C Research papers presented at ninth national conference on clays and clay minerals held in USA in 1960. Emphasis on engineering aspects of properties of clay and on clay organic complexes.

761
LABORATORY studies in geology; nos 201–8 by J. C. Brice, nos 213–27 by J. P. Miller and R. Scholten. San Francisco, London, Freeman, [1962]. 23 parts, suppl., app. Loose-leaf. Illus, tables, diagrs. 25*c*; 1*s* 6*d* per part.

B Part of university practical course in geology, covering in an elementary way crystallography, mineralogy, the classification of rocks, some geomorphology, and structural geology. Each part contains worksheets and blank pages for notes.

SUTTON, O. G. 762
Challenge of the atmosphere. Hutchinson, 1962. xiii,227p, tables, diagrs. 21*s*. *Hutchinson science library.*

A–B Science of the atmosphere explained in historical and non-mathematical way, highlighting difficulties of weather forecasting.

57 Anthropological and Biological Sciences

ITALIAN PHYSICAL SOCIETY 763
Physicomathematical aspects of biology: proceedings of the international school of physics 'Enrico Fermi'; XVI course, ed. by N. Rashevski. Varenna on Lake Como, Villa Monastero, July 11–July 30 1960. NY, London, Academic P, [1962]. [4],524p, illus, tables, diagrs, bibliog. $16; 114*s* 6*d*.

C Sixteen papers discuss mathematical models of physiological processes including neural interaction, sensory phenomena, various aspects of respiration and circulation, enzyme reactions, radiation hazards, and fundamental factors of a reaction rate theory. Marred by poor production.

LEEPER, G. W. *ed.* 764
Evolution of living organisms: a symposium to mark the centenary of Darwin's *Origin of species* and of the Royal Society of Victoria, held in Melbourne, December 1959. Melbourne, Melbourne UP; [London, NY, CUP], 1962. [8], 459p, illus, plates, tables, diagrs, bibliog. 6 *gns*.

B–C Thirty-six papers present Australian contributions to modern evolutionary theory in such fields as population dynamics, genetics, host-parasite relationships, and problems associated with evolution of Australian fauna and flora.

58 Botany

BENSON, L. D. 765
Plant taxonomy: methods and principles. NY, Ronald P, 1962. ix,494p, illus, diagrs. $11.50. *Chronica botanica publication.*

C Advanced textbook to follow the author's elementary textbook *Plant classification* (1957). Primary emphasis now on principles underlying classifying, naming, and describing botanical taxa.

LETTY, C. 766
Wild flowers of the Transvaal, text by R. A. Dyer, I. C. Verdoorn, and L. E. Codd. Pretoria, Wild Flowers of the Transvaal Book Fund, 1962. xiii,362p, plates. 80*s*.

C 423 species illustrated in colour. Order of families and genera closely follows sequence in *Genera of S. African flowering plants* by E. P. Phillips (2nd ed. 1951).

PARIHAR, N. S. 767
Hormonal control of plant growth. Allahabad, Scientific Research Committee; London, Asia Publishing House, 1962. vi,111p, bibliog. 9*s* 6*d*. *Uttar Pradesh Scientific Research Committee monograph.*

A–B Brief elementary survey of chemical nature, modes of action, and practical uses of plant growth substances in horticulture and agriculture. Work by British botanists rather inadequately covered.

59 Zoology

ALI, S. A. 768
Book of Indian birds. 6th ed. Bombay, Natural History Society, 1961; Hitchin (Herts), Wheldon, 1962. xlvi,158,xlvii–li p, illus. *Rs* 25; 45*s*.

D Much improved edition of useful reference work.

FRASER, J. 769
Nature adrift: the story of marine plankton. Foulis, 1962. v,178p, illus, plates, diagrs. 45*s*.

A–B Brief authoritative account of major groups of planktonic organisms, their ecology, behaviour, and importance to the world's fisheries.

KENNEDY, J. S. *and others* 770
Conspectus of aphids as vectors of plant viruses, by J. S. Kennedy, M. F. Day, and V. F. Eastop. Commonwealth Institute of Entomology, 1962. [3],114p, tables, bibliog. 25*s*.

C

NICHOLS, D. 771
Echinoderms. Hutchinson University Library, 1962. 200p, illus, diagrs, bibliog. 12*s* 6*d*. *Biological sciences.*

B Introduction to unique structure, adaptive radiation, special features, and evolutionary history of living and fossil echinoderms; for zoologists and geologists.

6 APPLIED SCIENCES

61 Health and Safety

FOOD AND AGRICULTURE ORGANISATION *and* WORLD HEALTH ORGANISATION. 772
Expert Committee on Food Additives
Evaluation of the toxicity of a number of antimicrobials and antioxidants: sixth report of the Joint FAO/WHO Expert Committee on Food Additives. Geneva, WHO; [London, HMSO], 1962. [2],104p, tables, diagrs, bibliog. 6*s* 8*d*.

B–C Short monographs on principal antimicrobials and antioxidants used in food. Description of each substance is followed by biological data on it.

MONNIG, H. O. 773
Veterinary helminthology and entomology. 5th ed. by G. Lapage. Baillière, Tindall & Cox, 1962. xiv,600p, plates, tables, diagrs, bibliog. 55*s*.
B Revised and expanded version of 1956 edition.

PUGH, L. P. 774
From farriery to veterinary medicine, 1785–1795. Cambridge, Heffer, for Royal College of Veterinary Surgeons, 1962. xiii,178p, plates, bibliog. 30*s*.
B Traces veterinary profession from first moves by Odiham Agricultural Society to granting of first diplomas by London Veterinary College.

62 Engineering and Technology

HEYWOOD, R. B. 775
Designing against fatigue. C & H, 1962. xv,436p, illus, tables, diagrs. 4 *gns*.
C Information on fatigue of materials and components, extracted and correlated from 1,350 references. Satisfies urgent need in engineering design.

MILLER, L. 776
Engineering dimensional metrology. Edward Arnold, 1962. viii,290p, illus, tables, diagrs, bibliog. 30*s*.
B Deals with actual operation of metrological methods rather than with fundamental principles of these methods or of the instruments used; therefore of value chiefly to practising metrologists.

621 *Mechanical and Electrical Engineering*

DORIAN, A. F. *comp.* 777
Six-language dictionary of automation, electronics and scientific instruments: a comprehensive dictionary in English, French, German, Italian, Spanish and Russian. London, Iliffe; Englewood Cliffs (NJ), Prentice-Hall, 1962. *12*,732p, 5 *gns*.
D Contains technical jargon as well as conventional and highly specialized words and terms. Well arranged and conveniently indexed.

FAWCETT, J. R. 778
Hydraulics in mechanical handling. Sutton (Surrey), Trade and Technical P, 1962. viii,159p, tables, diagrs. 2 *gns*.
A Up-to-date account of application of hydraulic power with practical instruction on how to use standard components for designing mechanical handling equipment economically.

SELL, G. *and* WELLS, M. J. *eds* 779
Engine testing of crankcase lubricating oils: report of the Institute of Petroleum conference held in Brighton, 17–19 May, 1961. The Institute, 1962. [6],257p, illus, plates, tables, diagrs, bibliog. 3 *gns*.
C Comprehensive and up-to-date record of methods in use and opinions of expert technologists in fields of lubricating oil production and application.

621.039 *NUCLEAR ENGINEERING*

INTERNATIONAL ATOMIC ENERGY AGENCY 780
Nuclear electronics: proceedings of the conference . . . held at Belgrade, 15–20 May 1961. Vienna, the Agency; [London, HMSO], 1962. Illus, tables, diagrs, bibliog. 3v.
C Vol. 1. [9],599p. 66*s*. Vol. 2. 460p. 48*s*. Vol. 3. 531p. 66*s*. Contributions in English, French, and Russian, with abstracts in these languages and Spanish.

621.3 *Electrical Engineering*

DUCKETT, W. 781
Windings on traction machines: insulation and construction. Heywood, 1962. 89p, illus, tables, diagrs. 40*s*.
B–C Experienced designer-draughtsman, who has worked in close collaboration with the shops, covers manufacturing design of windings for rotating electrical traction machines. For industrial technical workers.

GRIFFITHS, V. S. *and* LEE, W. H. 782
Electronics of laboratory and process instruments. Chatto & Windus, 1962. xiii,368p, tables, diagrs, bibliog. 50*s*.

B Basic electronic circuit theory with applications to polarography, spectrophotometry, measurement of conductivity and pH, and to other instrumentation. Of interest mainly to students of applied chemistry.

HANDEL, S. 783
Dictionary of electronics. Penguin, 1962. 384p, tables, diagrs. 7*s* 6*d*. *Penguin reference books*.

D Concise, up-to-date definitions, based as far as possible on accepted standards, of over 5,000 British and American terms used in electronics and telecommunications.

HARMAN, W. W. *and* LYTLE, D. W. 784
Electrical and mechanical networks: an introduction to their analysis. NY, London [etc], McG-H, 1962. xvii,588p, tables, diagrs, bibliog. $11.50; 89*s*. *Electrical and electronic engineering series*.

B Includes simple and complex circuits, equivalent networks, energy conversion, control systems, etc., with usual mathematical techniques for determining transient and steady-state response to excitation.

624 *Structural Engineering*

JONES, L. L. 785
Ultimate load analysis of reinforced and prestressed concrete structures. Chatto & Windus, 1962. 248p, diagrs. 45*s*.

C Monograph on ultimate load-carrying capacity of concrete structures; valuable to practising structural engineers and useful in structural design offices.

629.1 *Transport Engineering*

GIBBS-SMITH, C. H. 786
Sir George Cayley's aeronautics, 1796–1855. HMSO, 1962. xxiii,269p, illus, plates, diagrs, bibliog. 30*s*. *Science Museum handbooks*.

A Describes with aid of many illustrations and quotations Cayley's fundamental contributions to aeronautics, both theoretical and experimental, and substantiates claim that he is the inventor of the aeroplane and the founder of aeronautics.

THORNE, T. G. *ed.* 787
Navigation systems for aircraft and space vehicles: papers presented at the Agard Avionics Panel meeting 3–8 October 1960, Istanbul. Oxford, NY [etc], Pergamon P, for Advisory Group for Aeronautical Research and Development, North Atlantic Treaty Organization, 1962. vii,550p, illus, tables, diagrs, bibliog. 6 *gns*; $17.00. *Agardograph 55*.

B Thirty-four papers concerning aircraft navigational aids, ionospheric effects, automatic landing, all-weather approach, collision avoidance, and the use of satellites for pin-point navigation.

67/68 Manufactures

KAUFMAN, M. *ed.* 788
Advances in PVC compounding and processing. Maclaren, 1962. 103p, illus, tables, diagrs, bibliog. 25*s*.

C Lectures delivered in 1961 at the National College of Rubber Technology, covering properties, plasticization, stabilization, compounding, extrusion, and sintering of vinyl chloride polymers and copolymers from a practical manufacturing standpoint.

Publishers

THE FOLLOWING ABBREVIATIONS ARE USED IN ASLIB BOOK LIST

A & U	Allen & Unwin
B & S	Bailey & Swinfen
C & H	Chapman & Hall
CUP	Cambridge University Press
EUP	English Universities Press
HMSO	Her Majesty's Stationery Office
McG-H	McGraw-Hill
O & B	Oliver & Boyd
OUP	Oxford University Press
R & KP	Routledge & Kegan Paul
T & H	Thames & Hudson
ULP	University of London Press

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0 SCIENCE AND KNOWLEDGE

007 Information. Communication. Control theory

WESTCOTT, J. H. *ed.* 789
Exposition of adaptive control: proceedings of a symposium held at the Imperial College of Science and Technology, London, 1961. Oxford, NY [etc], Pergamon P, 1962. [4],135p, table, diagrs, bibliog. 35*s*; $6.50.
C Introduces recently developed mathematical techniques for analysis and synthesis of adaptive control systems.

3 SOCIAL SCIENCES

31 Statistics

SARNDAL, C-E. 790
Information from censored samples. Stockholm, Almqvist & Wiksell, 1962. 120p, tables, diagrs, bibliog. S.KR.18.
C Research thesis extending work of Scandinavian school of statistics in field of great practical importance: where the findings available for analysis are incomplete.

37 Education

BEREDAY, G. Z. F. *and* LAUWERYS, J. A. *eds* 791
Year book of education 1962: the gifted child. Evans Bros in association with University of London Institute of Education and Teachers College, Columbia University, 1962. xiv,541p, tables. 3 *gns.*
B Examines issues involved in detection/selection of children with above-average ability.

GREEN, E. J. 792
Learning process and programmed instruction. NY, Holt, 1962. xi,228p, diagrs. $4.
B Relates experimental background to technique of instruction.

KELLY, T. 793
History of adult education in Great Britain. Liverpool, Liverpool UP, 1962. xii,352p. 2 *gns.*
B Comprehensive study from middle ages to twentieth century.

5 MATHEMATICAL AND NATURAL SCIENCES

51 Mathematics

ALLAN, R. K. 794
Systematic slide rule technique: an analytical survey of modern slide rule theory and practice for technical students and all who make calculations. Pitman, 1962. viii,126p, illus, tables, diagrs. 27*s* 6*d.*
A Guide to use of slide rules, cylindrical rules, and disc calculators.

GÖDEL, K. 795
On formally undecidable propositions of *Principia mathematica* and related systems, tr. [from the German] by B. Meltzer, with an introduction by R. B. Braithwaite. Edinburgh, London, O & B, 1962. viii,72p. 12*s* 6*d.*
C Translation of Gödel's epoch-making paper on the logical incompleteness of formal arithmetic, with valuable thirty-page introduction and commentary by Professor Braithwaite.

VAJDA, S. 796
Readings in mathematical programming. 2nd ed. [of *Readings in linear programming*]. Pitman, 1962. viii,130p, tables, diagrs, bibliog. 21*s*.

B Provides graded set of examples which introduce main ideas and techniques of linear, quadratic, and dynamic programming.

53 Physics and Mechanics

CURLE, N. 797
Laminar boundary layer equations. Oxford, Clarendon P, 1962. xi,162p, tables, diagrs, bibliog. 30*s*. *Oxford mathematical monographs.*

C Clear and ordered survey, suitable for advanced students and research workers, covering steady, two-dimensional incompressible and compressible flow with and without heat transfer at the surface.

FERRI, A. *and others, eds* 798
Progress in aeronautical sciences, ed. by A. Ferri, D. Küchemann, L. H. G. Sterne; vol. 3. Oxford, London, Pergamon P, 1962. viii,241p, plate, tables, diagrs, bibliog. 80*s*.

C 'State of the art' monographs on aerodynamic principles for design of swept wings, ducted propellers, experimental facilities for hypersonic research, and aspects of atmospheric turbulence relevant to aeronautics.

FRANCIS, J. R. D. 799
Textbook of fluid mechanics for engineering students, with a chapter on gas flow by G. Jackson. 2nd ed. Edward Arnold, 1962. viii,340p, plates, tables, diagrs, bibliog. 26*s*.

B Revised elementary work giving minimum information necessary for engineering degree. One of the best introductions to the subject.

GREEN, W. G. 800
Theory of machines. 2nd ed. London, Glasgow, Blackie, 1962. xxi,1064p, illus, tables, diagrs. 52*s* 6*d*.

B Comprehensive text on theory of machines including also relevant principles of dynamics. For National Certificate or degree students.

ITALIAN PHYSICAL SOCIETY 801
Topics on radiofrequency spectroscopy: proceedings of the international school of physics 'Enrico Fermi'; XVII course, ed. by A. Gozzini. Varenna on Lake Como, Villa Monastero, 1–17 August 1960. NY, London, Academic P, [1962]. VIII,312p, illus, tables, diagrs, bibliog. $10; 80*s*.

C Detailed reports in French and English on current theories and practical aspects of *a*, masers as frequency and time standards, amplifiers, and generators; *b*, radiofrequency studies of optical and magnetic resonance effects in atoms and molecules. Full references.

KOERBER, G. G. 802
Properties of solids. [Englewood Cliffs (NJ)], London, Prentice-Hall, [1962]. ix,286p, illus, tables, diagrs. $9.75; 3 *gns*. *Prentice-Hall series in engineering of the physical sciences.*

C Unified tensor-physics approach to characterizing properties of materials and explaining their responses to excitational environment. Helps to evaluate elastic, plastic, thermal, electronic, thermoelectric, dielectric, and magnetic data.

PECK, W. J. *and* RICHMOND, A. J. 803
Applied thermodynamics problems for engineers. 2nd ed. Edward Arnold, 1962. x,395p, tables, diagrs. 30*s* (board); 17*s* 6*d* (paper).

B New work on gas flow and applications dealing with rotary compressors, gas turbines, and heat transfer. For HNC or degree students. Previous edition 1950.

PREUSS, L. E. *ed.* 804
1961 transactions of the eighth national vacuum symposium (American Vacuum Society) combined with the second international congress on vacuum science and technology (International Organization for Vacuum Science and Technology). Oxford, NY [etc], Pergamon P, 1962. xxiii,669; x,670–1351,[4]p, illus, tables, diagrs. 2v. 300*s*; $45 per set.

C Two hundred papers give up-to-date review of progress in vacuum technology.

SHAMES, I. M. 805
Mechanics of fluids. NY, London [etc], McG-H, 1962. xvii,555p, illus, tables, diagrs. $8.95; 69*s* 6*d*.

B Fundamental text suitable for a first course in science-orientated engineering.

537 *Electricity*

HENISCH, H. K. 806
Electroluminescence. Oxford, NY [etc], Pergamon P, 1962. xiii,368p, tables, diagrs, bibliog. 80*s*; $12.50. *International series of monographs on semiconductors, vol. 5.*

C Authoritative, non-mathematical survey of theoretical and practical aspects and device applications of electroluminescence in single crystals and powders of ZnS, SiC, semiconductors, and other compounds.

HENNYEY, Z. 807
Linear electric circuits, [tr. from the Hungarian by N. Izsak]. Oxford, NY [etc], Pergamon P, 1962. 330p, tables, diagrs. 100*s*; $15.

C Very advanced work, based on new form of operational calculus developed by author. Presentation and diagrams uniformly good.

539.1 *Nuclear Physics*

COMPTON, D. M. J. *and* SCHOEN, A. H. *eds* 808
Mössbauer effect: proceedings of the second international conference on the Mössbauer effect, held at Saclay, France on September 13–15, 1961, sponsored by the Institut des Sciences et Techniques Nucléaires, Saclay, France. NY, London, Wiley, [1962]. xvii,314p, tables, diagrs, bibliog. $16.50; 124*s*.

C Considers new developments in recoilless nuclear resonance absorption of gamma radiation.

ITALIAN PHYSICAL SOCIETY 809
Nuclear spectroscopy: proceedings of the international school of physics 'Enrico Fermi'; XV course, ed. by G. Racah. Varenna on Lake Como, Villa Monastero, June 20–July 9 1960. NY, London, Academic P, [1962]. VIII,258p, plate, tables, diagrs, bibliog. $9; 72*s*.

C Six lectures on nuclear structure, nuclear radiations, and theory of nuclear matter, with six shorter supporting papers. For advanced workers in the field.

YEATER, M. L. *ed.* 810
Neutron physics: proceedings of the symposium held at Rensselaer Polytechnic Institute, May 5–6, 1961. NY, London, Academic P, 1962. xiii,303p, illus, tables, diagrs, bibliog. $12; 86*s*. *Nuclear science and technology: a series of monographs and textbooks, 2.*

C Survey of developments in some key areas of neutron physics, particularly low energy neutron cross-section measurements and neutron spectrometry.

54 Chemistry

OSTROUMOV, E. A. 811
Application of organic bases in analytical chemistry, tr. from the Russian by D. A. Paterson. Oxford, NY [etc], Pergamon P, 1962. xxv,159p, tables, diagrs, bibliog. 50*s*; $8.50. Typewriter script.

C Russian work on applications of pyridine, α-picoline, and hexamethylenetetramine in systematic separation and determination of metals. Published Moscow 1959.

SMEATON, W. A. 812
Fourcroy: chemist and revolutionary, 1755–1809. Cambridge, Heffer, for the author, 1962. xxi,288p, plates, bibliog. 40*s*.

B First full-length biography, containing full bibliography of Fourcroy's writings and biographical and historical sources.

WILSON, J. M. *and others* 813
Experiments in physical chemistry. Oxford, NY [etc], Pergamon P, 1962. xii, 290p, tables, diagrs, bibliog. 21*s*; $4.50.

B 102 classified laboratory experiments accompanied by brief theoretical and explanatory discussion, covering subject to honours degree. Complementary to theoretical texts.

57 Anthropological and Biological Sciences

FRAENKEL-CONRAT, H. 814
Design and function at the threshold of life: the viruses. NY, London, Academic P, [1962]. vii,117p, tables, diagrs, bibliog. $1.95; 14*s*. *Academic paperbacks.*

A–B Discusses isolation of plant, animal, and bacterial viruses, chemical structure of the most significant molecular species found in viruses, and relationship between these chemical structures and the biological functions, especially replication, which are shown by viruses.

ROGERS, W. P. 815
Nature of parasitism: the relationship of some metazoan parasites to their hosts. NY, London, Academic P, 1962. ix,287p. $7.50; 60*s*. *Theoretical and experimental biology, vol. 2.*

B Intended to provoke interest and stimulate research on parasitism.

6 APPLIED SCIENCES

62 Engineering and Technology

AMERICAN SOCIETY FOR TESTING AND MATERIALS 816
Reactor structural materials: engineering properties as effected by nuclear reactor service, by W. K. Anderson and others, sponsored by Committee E–10 on radioisotopes and radiation effects. Philadelphia (Pa), the Society, 1962. v,93p, tables, diagrs, bibliog. $4.50 ($3.60 to members). *ASTM special publication no. 314.*

C Review articles on radiation effects on iron, carbon steel, stainless steel, nickel and cobalt alloys, aluminium, titanium and zirconium alloys.

621 *Mechanical and Electrical Engineering*

AMERICAN SOCIETY OF TOOL AND MANUFACTURING ENGINEERS. 817
National Technical Publications Committee
Handbook of fixture design: a practical reference book of workholding principles and designs for all classes of machining assembly and inspection, editor-in-chief F. W. Wilson, associate ed. J. M. Holt. NY, London [etc], McG-H, 1962. [477]p, tables, diagrs. $15; 116*s* 6*d*. Various paging.

C Short chapters by specialists, each dealing with fixtures for a particular machine process. Fully illustrated. For production engineers.

DE BARR, A. E. 818
Automatic control: an introduction to the theory of feedback and feedback control systems. London, C & H, for Institute of Physics and Physical Society; NY, Reinhold, 1962. [7],119p, diagrs, bibliog. 7*s* 6*d*. *Institute of Physics and Physical Society monographs for students.*

B Clear and concise account drawn from standard textbooks, for undergraduates in various disciplines who possess an elementary knowledge of differential equations.

621.039 *Nuclear Engineering*

GREAT BRITAIN. Central Office of Information. *Reference Division* 819
Nuclear energy in Britain. 3rd ed. HMSO, 1962. [4],92p, plates, tables, diagrs, bibliog. 7*s*. *Reference pamphlets, no. 28.*

D Reviews development of nuclear energy in Britain and describes organizations responsible for it.

INTERNATIONAL ATOMIC ENERGY AGENCY 820
Physics of fast and intermediate reactors: proceedings of the seminar . . . sponsored by the Agency and held in Vienna, 3–11 August, 1961. Vienna, the Agency; London, HMSO, 1962. Illus, tables, diagrs, bibliog. 3v. *International Atomic Energy Agency proceedings series.*

C Vol. 1. [9],487p, 54*s*. Vol. 2. [5],407p, 54*s*. Vol. 3. [8],617p, 72*s*. Most papers in English, but some in French, Spanish, or Russian. Important book for reactor physicists.

INTERNATIONAL ATOMIC ENERGY AGENCY 821
Programming and utilization of research reactors: proceedings of a symposium held in Vienna, October 16–21, 1961; vol. 1. London, NY, Academic P, for the Agency, 1962. xvi,328p, illus, tables, diagrs, bibliog. 3 *gns*; $9.

C Proceedings and discussions devoted to research reactor use in physical and life sciences, with emphasis on needs of new reactor centres. First of three volumes. Some papers in French, Spanish, and Russian. Typewriter script.

621.3 *Electrical Engineering*

HAKIM, S. S. 822
Junction transistor circuit analysis. London, Iliffe; NY, Wiley, 1962. 522p, diagrs. 5 *gns*.

C Theoretical and mathematical approach to transistor physics, linear operation, and switching, giving problems and references. Based on series of lectures.

621.7 *Workshop Practice*

ALUMINIUM DEVELOPMENT ASSOCIATION 823
Anodic oxidation of aluminium and its alloys. New ed. The Association, 1961. 187p, illus, plates, tables, diagrs, bibliog. 8*s* 6*d*. *Information bulletin no. 14.*

C Account of process of anodizing and the properties and application of anodized aluminium. First edition 1949.

APOLD, A. 824
Carbon oxidation in the weld pool during the metal-arc welding of plain carbon steels: an investigation based on the measurement of the mixing ratio of base metal to metal from the electrode, [tr. from the Norwegian]. Oxford, NY [etc], Pergamon P, 1962. vii,136p, plate, tables, diagrs, bibliog. 35*s*; $6.50.

B Record of mathematical bases and experimental results (including good list of references), supplementing knowledge obtained by less elegant methods. Of use mainly to electrode manufacturers.

CONWAY, H. G. 825
Engineering tolerances: a study of tolerances, limits and fits for engineering purposes, with full tables of all recognized and published tolerance systems. 2nd ed. Pitman, 1962. ix,341p, illus, tables, diagrs, bibliog. 60*s*.

B Substantially revised edition, brought up to date by inclusion of new BSI, ASA, and CSA tolerance systems based on the ISA system which was fully treated in the 1948 edition.

MUDGE, I. W. 826
Laboratory experiments in workshop technology. EUP, 1962. x,94p, tables, diagrs. 8*s* 6*d*. *Technical college series.*

B Comprehensive range of experiments on machine tools, gauging and measurement, materials and heat treatment. For National Certificate or City & Guilds courses.

623 *Military and Naval Engineering*

GROVES, L. R. 827
Now it can be told: the story of the Manhattan Project. NY, Harper, 1962. xv,464p, illus, diagrs. $6.95.

A Excellent personal narrative of United States Army engineer in charge of American atomic energy programme and development of first atomic bomb.

624 *Structural Engineering*

BISHOP, A. W. *and* HENKEL, D. J. 828
Measurement of soil properties in the triaxial test. 2nd ed. Edward Arnold, 1962. viii,228p, illus, tables, diagrs, bibliog. 60*s*.

C Comprehensive textbook by authors of international repute. For students and specialist consultants in soil mechanics. Identical with first edition but for appendix bringing information up to date.

DUNHAM, C. W. 829
Foundations of structures. 2nd ed. NY, London [etc], McG-H, 1962. xv,722p, illus, tables, diagrs, bibliog. $12.75; 99*s*. *McGraw-Hill civil engineering series.*

C Emphasizes that economy is achieved at design stage, and that all available skill and knowledge must be applied then. For practising engineers rather than students.

LEGGET, R. F. 830
Geology and engineering, with a foreword by P. G. H. Boswell. 2nd ed. NY, London [etc], McG-H, 1962. xvii,884p, illus, tables, diagrs, bibliog. $12.50; 97*s*. *International series in the earth sciences.*

C For engineers rather than students. Civil engineering projects in many countries have been used to illustrate the various points. First edition 1939.

627 *River, Port, Harbour, and Coast Works: Dams, etc.*

SOWERS, G. F. *and* SALLEY, H. L. 831
Earth and rockfill dam engineering. Asia Publishing House, [1962]. xii,283p, tables, diagrs, bibliog. 45*s*. *University of Roorkee series, 101.*

C Comprehensive textbook on principles of design and construction of earth dams, of particular value to practising engineers and advanced students.

629.1 *Transport Engineering*

YOUNG, A. P. *and* GRIFFITHS, L. 832
Automobile electrical equipment: theory and practice for students, designers, automobile electricians and motorists. 7th ed. Iliffe, 1962. 451p, illus, tables, diagrs. 55*s*.

B Revised version of accepted standard reference book. Previous edition 1958.

629.19 *ASTRONAUTICS*

AMERICAN ROCKET SOCIETY 833
Guidance and control: a selection of technical papers based mainly on a symposium of the American Rocket Society held at Stanford University, Stanford, California, August 7–9, 1961, ed. by R. E. Roberson and J. S. Farrior. NY, London, Academic P, 1962. xv,670p, illus, tables, diagrs, bibliog. $9.25; 74*s*. *Progress in astronautics and rocketry, vol. 8.*

C Discusses problems of ascent and descent, re-entry guidance, inertial navigation and components, optical navigation and infra-red sensors, and attitude control for satellites.

GATLAND, K. W. 834
Astronautics in the sixties: a survey of current technology and future development. London, Iliffe; NY, Wiley, 1962. 388p, illus, plates, tables, diagrs. 47*s* 6*d*.

A Detailed résumé of technical problems and developments in astronautics with an account of current programmes in space research and future projects.

63 Agriculture. Forestry. Livestock. Fisheries

835
REVIEW of the biological control attempts against insects and weeds in Canada; part 1, biological control of pests of crops, fruit trees, ornamentals, and weeds in Canada up to 1959, by J. H. McLeod; part 2, biological control of forest insects, 1910–1958, by B. M. McGugan and H. C. Coppel. Farnham Royal (Bucks), Commonwealth Agricultural Bureaux, 1962. xi,216p, tables, diagrs, bibliog. 35*s*. *Commonwealth Institute of Biological Control, Trinidad, technical communication no. 2.*

B–C Summary of great interest at present time when implications of chemical control of pests and weeds are causing anxiety. The biological records and bibliography will prove invaluable in teaching and research.

SHIRLAW, D. W. G. 836
Soil fertility and field methods of analysis: a guide for agricultural students and advisers, gardeners and horticulturalists, with a foreword by E. J. Russell. Cassell, 1962. vii,29p, plate, diagrs. 7*s* 6*d*.

A Brief outline of factors affecting soil fertility, straightforward fertilizer programmes, and detailed account of how to use the Lovibond soil testing kit. For non-scientists.

SWAINE, D. J. 837
Trace-element content of fertilizers. Farnham Royal (Bucks), Commonwealth Agricultural Bureaux, 1962. xiii,306p, bibliog. 40*s*. *Commonwealth Bureau of Soils, technical communication no. 52.*

D Carefully classified detailed data on some fifty-eight trace elements.

TARR, S. A. J. 838
Diseases of sorghum, sudan grass and broom corn. Kew (Surrey), Commonwealth Mycological Institute, 1962. x,380p, illus, plates, tables, bibliog. 60*s*.

C Detailed and critical summary of literature on diseases of these crops and their control, with numerous illustrations. For plant pathologists throughout the tropics.

65 Business Techniques. Management

ARROW, K. J. *and others, eds* 839
Studies in applied probability and management science. Stanford (Cal.), Stanford UP; London, OUP, 1962. 287p, tables. $8.50; 68*s*.

C Original research papers on management problems: inventory, storage, queuing, maintenance, reliability, and replacement of equipment.

KRICK, E. V. 840
Methods engineering: design and measurement of work methods. NY, London, Wiley, 1962. 530p. $10.75; 81*s*.

B Author's stated intention is to give a general survey of the subject and to emphasize the need for discrimination between sound and unsound theories.

LOCKYER, K. G. 841
Factory management. Pitman, 1962. xi,232p, illus, plate, tables, diagrs, bibliog. 27*s* 6*d*.

B Student's textbook at level of Associate Membership examination of Institution of Mechanical Engineers.

MOORE, J. M. 842
Plant layout and design. NY, London, Macmillan (NY), 1962. 566p, illus. $10; 75*s*.

C Considers recently developed quantitative techniques and their application to design.

66 Chemical Technology

AMERICAN CERAMIC SOCIETY 843
Advances in glass technology: technical papers of the VI international congress on glass, Washington, DC, USA, July 8–14, 1962. NY, Plenum P, 1962. xxii,639p, illus, plates, tables, diagrs, bibliog. $21.

C

BISWAS, A. K. *and* BASHFORTH, G. R. 844
Physical chemistry of metallurgical processes. C & H, 1962. xi,336p, tables, diagrs, bibliog. 50*s*.

B Presents principles of thermodynamics and physical chemistry applicable to production metallurgy. For students and production metallurgists.

PAUSHKIN, YA. M. 845
Chemical composition and properties of fuels for jet propulsion, tr. [from the Russian] by W. E. Jones, ed. by B. P. Mullins. Oxford, NY [etc], Pergamon P, 1962. 480p, illus, tables, diagrs, bibliog. 100*s*; $15.

C Provides great deal of up-to-date information and numerical data on characteristics of fuels and lubricants for turbojet engines and on rocket propellants.

RIEGEL, [E.R.] 846
Riegel's industrial chemistry, ed. by J. A. Kent, NY, Reinhold; London, C & H, [1962]. xii,963p, illus, tables, diagrs, bibliog. $20; 160*s*.

C Provides the smaller library with general reference which will adequately fulfil the requirements of most users who do not need a detailed study. 6th edition of *Industrial chemistry*.

SMIALOWSKI, M. 847
Hydrogen in steel: effect of hydrogen on iron and steel during production, fabrication, and use. Warsaw, Wydawnictwa Naukowo-Techniczne; Oxford, NY [etc], Pergamon P, 1962. xvi,452p, tables, diagrs, bibliog. 70*s*; $10.

C Critical and comprehensive review of some 2,600 publications covering both basic and applied aspects. Mainly for research workers but contains useful technological data.

67/68 Manufactures

LEVER, A. E. *and* RHYS, J. 848
Properties and testing of plastics materials. 2nd ed. Temple P, 1962. ix,321p, tables, diagrs, bibliog. 55*s*.

C Fully revised, with additional information on reinforced plastics and the newer high polymers. Over 3,000 references.

Publishers

THE FOLLOWING ABBREVIATIONS ARE USED IN ASLIB BOOK LIST

A & U	Allen & Unwin
B & S	Bailey & Swinfen
C & H	Chapman & Hall
CUP	Cambridge University Press
EUP	English Universities Press
HMSO	Her Majesty's Stationery Office
McG-H	McGraw-Hill
O & B	Oliver & Boyd
OUP	Oxford University Press
R & KP	Routledge & Kegan Paul
T & H	Thames & Hudson
ULP	University of London Press

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